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Water Resources Data for Arizona

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT AZ-80-1

WATER YEAR 1980

Prepared in cooperation with the State of Arizona and with other agencies

JUN 04 1981

CALENDAR FOR WATER YEAR 1980

1979

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Water Resources Data for Arizona

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT AZ-80-1

WATER YEAR 1980

Prepared in cooperation with the State of Arizona and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Arizona write to
District Chief, Water Resources Division
U.S. Geological Survey
301 W. Congress Street
Tucson, Arizona 87501

1982

PREFACE

This report was prepared by personnel of the Arizona district of the Water Resources Division of the U.S. Geological Survey, under the supervision of R. D. Mac Nish, District Chief, and J. D. Bredehoeft, Regional Hydrologist, Western Region. It was done in cooperation with the State of Arizona and with other agencies.

This report is one of a series by State. General direction for the series is by Philip Cohen, Chief Hydrologist, and Robert J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

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15. Supplementary Notes

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16. Abstract (Limit: 200 words)

Water resources data for the 1980 water year for Arizona consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; water levels of observation wells; and quality of ground water. This report contains discharge records for 240 gaging stations, annual peaks for 61 crest-stage partial-record stations, and discharge measurements at 14 miscellaneous sites; contents only records for 9 lakes and reservoirs; stage and contents for 1 lake; elevation and discharge for 1 streamflow station; elevation only for 1 streamflow station; gage height only for 1 head over a dam; 16 supplementary records, included with gaging-station records, consisting of monthend or monthly stage, contents, and evaporation of lakes and reservoirs, diversions, and return flows; water-quality records for 62 continuous-record stations and 9 miscellaneous sites; water levels for 93 observation wells; and water-quality data for water from 741 wells. The data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Federal and State Agencies in Arizona.

17. Document Analysis a. Descriptors

*Arizona, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Sampling sites, Water levels, Water analyses.

b. Identifiers/Open-Ended Terms

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CONTENTS

	Page
Preface	III
List of gaging stations and water-quality stations, in downstream order, for which records are published	VII
Introduction	1
Cooperation	2
Hydrologic conditions	3
Definition of terms	5
Downstream order and station numbers	18
Numbering system for wells and miscellaneous sites	19
Special networks and programs	19
Explanation of stage and water-discharge records	22
Collection and computation of data	22
Publication of data	24
Accuracy of field data and computed results	27
Other data available	28
Records of discharge collected by agencies other than the Geological Survey	28
Explanation of water-quality records	28
Collection and examination of data	28
Water analysis	29
Water temperature	30
Sediment	30
Explanation of ground-water level records	31
Collection and publication of the data	31
Publications on techniques of water-resources investigations	32
Hydrologic-data station records	35
Discharge at partial-record stations and miscellaneous sites	505
Crest-stage partial-record stations	505
Discharge measurements at miscellaneous sites	508
Analyses of samples collected at miscellaneous sites	510
Water levels in selected wells in ground-water areas in Arizona	518
Quality of ground water	524
Index	563

ILLUSTRATIONS

		Page
Figure 1.	Graph showing runoff during 1980 water year compared with median runoff for period 1951-80 for three representative gaging stations	7
2.	Diagram showing system for numbering wells and miscellaneous sites	20
3.	Diagram showing well-numbering system in Arizona	21
4.	Map of Arizona showing location of gaging stations	33
5.	Map of Arizona showing location of water-quality stations	34
6.	Schematic diagram showing gaging stations and water-quality stations on streams, diversions, and return flows between Imperial Dam and the southerly international boundary	426
7.	Map of Arizona showing location of partial-record gaging stations	504
8.	Index map of ground-water areas in Arizona	516

[Letters after station name designate type of data: (b) biological; (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

Page

COLORADO RIVER BASIN
Colorado River:
SAN JUAN RIVER BASIN
San Juan River:
Chinle Creek near Mexican Water (d) 35
Lake Powell at Glen Canyon Dam (v) 36
Colorado River at Lees Ferry (bcdmpqst) 37
PARIA RIVER BASIN
Paria River at Lees Ferry (d) 47
Colorado River at Compact point, near Lees Ferry (d) 48
LITTLE COLORADO RIVER BASIN
Little Colorado River at Greer (d) 49
Nutrioso Creek above Nelson Reservoir, near Springerville (d) 50
Nutrioso Creek below Nelson Reservoir, near Springerville (d) 51
Little Colorado River above Lyman Lake, near St. Johns (bcdms) 52
Lyman Canal below Lyman Lake, near St. Johns (d) 58
Little Colorado River below Lyman Lake, near St. Johns (d) 59
Little Colorado River above Zion Reservoir, near St. Johns (cd) 60
Zuni River above Black Rock Reservoir, NM (d) 62
Silver Creek:
Show Low Creek near Lakeside (d) 63
Show Low Creek below Jaques Dam, near Show Low (dv) 64
Silver Creek near Snowflake (d) 65
Little Colorado River at Woodruff (d) 66
Puerco River:
Black Creek near Lupton (d) 67
Puerco River near Chambers (d) 68
Little Colorado River near Joseph City (d) 69
East Clear Creek (head of Clear Creek):
Blue Ridge Reservoir near Pine (v) 70
Clear Creek below Willow Creek, near Winslow (cd) 71
Clear Creek near Winslow (d) 73
Little Colorado River at Cameron (bcmps) 74

COLORADO RIVER BASIN—Continued
LITTLE COLORADO RIVER BASIN—Continued Page
Coal Mine Wash:
Coal Mine Wash tributary No. 1 near Kayenta (d) 80
Moenkopi Wash at Moenkopi (cds) 81
Little Colorado River near Cameron (d) 84
Colorado River near Grand Canyon (cd) 85
KANAB CREEK BASIN
Kanab Creek near Kanab, UT (d) 89
Kanab Creek near Fredonia (d) 91
VIRGIN RIVER BASIN
Virgin River at Littlefield (bcdmqst) 92
Virgin River above Halfway Wash near Riverside, NV (cds) 98
LAS VEGAS VALLEY
Las Vegas Wash near Henderson, NV (cds) 105
Las Vegas Wash near Boulder City, NV (cdps) 108
Lake Mead at Hoover Dam, AZ-NV (cv) 117
Colorado River below Hoover Dam, AZ-NV (bcdmqst) 126
Lake Mohave at Davis Dam, AZ-NV (v) 134
Colorado River below Davis Dam, AZ-NV (cd) 135
Colorado River at Needles, CA (e) 137
DIVERSIONS AND RETURN FLOWS BETWEEN DAVIS DAM AND PARKER DAM
Topock Marsh Inlet near Needles, CA (d) 138
Colorado River near Topock (cde) 139
Lake Havasu:
DIVERSIONS FROM LAKE HAVASU
Colorado River aqueduct near Parker Dam, AZ-CA (d) 142
BILL WILLIAMS RIVER BASIN
Big Sandy River (head of Bill Williams River):
Big Sandy River near Wikieup (d) 143
Kirkland Creek (head of Santa Maria River) near Kirkland (cd) 144
Santa Maria River near Bagdad (d) 146
Bill Williams River below Alamo Dam (d) 147
Bill Williams River below Mineral Wash near Planet (bcmpqst) 148
Lake Havasu near Parker Dam, AZ-CA (ev) 157
Colorado River below Parker Dam, AZ-CA (cdm) 159
DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM
Colorado River Indian Reservation Main Canal near Parker (cd) 165
Colorado River Indian Reservation Poston wasteway near Poston (c) 168

COLORADO RIVER BASIN—Continued
DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM—Continued Page
Palo Verde Canal near Blythe, CA (cd) 171
Colorado River at Palo Verde Dam, AZ-CA (d) 174
DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM
Palo Verde drain near Parker (c) 176
Colorado River Indian Reservation Lower Main drain near Parker (c) 178
Palo Verde Irrigation District Olive Lake drain near Blythe, CA (c) 180
Colorado River at Taylor Ferry, near Blythe, CA (c) 182
Palo Verde Irrigation District Outfall drain near Palo Verde, CA (c) 184
Palo Verde Irrigation District Anderson drain near Palo Verde, CA (c) 186
Cibola Lake Inlet near Cibola (d) 187
Cibola Lake Outlet near Cibola (d) 187
Colorado River below Cibola Valley (cd) 189
Colorado River above Imperial Dam, AZ-CA (bcdmpqt) 193
Colorado River below Imperial Dam, AZ-CA (d) 214
Colorado River below Laguna Dam, AZ-CA (cdq) 215
GILA RIVER BASIN
Gila River near Gila, NM (d) 219
Gila River near Redrock, NM (d) 220
Gila River below Blue Creek, near Virden, NM (d) 221
Diversions from Gila River in Duncan Valley, NM-AZ (d) 222
Gila River near Clifton (d) 223
San Francisco River near Reserve, NM (d) 224
San Francisco River near Alma, NM (d) 225
San Francisco River near Glenwood, NM (d) 226
Blue River near Clifton (d) 227
San Francisco River at Clifton (d) 228
Eagle Creek:
Willow Creek:
Willow Creek diversion from Black River, near Morenci (d) 229
Eagle Creek above pumping plant, near Morenci (d) 230
Gila River at head of Safford Valley, near Solomon (cdm) 231
Diversions from Gila River in Safford Valley (d) 234
San Simon River near Solomon (d) 235
Gila River at Calva (bcdms) 236
San Carlos River near Peridot (d) 243
San Carlos Reservoir at Coolidge Dam (v) 244

COLORADO RIVER BASIN—Continued
GILA RIVER BASIN—Continued Page
Gila River below Coolidge Dam (d) 245
Gila River at Winkelman (bcdm) 246
San Pedro River at Palominas (d) 250
San Pedro River at Charleston (d) 251
San Pedro River near Tombstone (d) 252
San Pedro River near Redington (d) 253
Aravaipa Creek near Mammoth (d) 254
San Pedro River below Aravaipa Creek near Mammoth (d) 255
San Pedro River at Winkelman (bcms) 256
Gila River at Kelvin (bcdms) 261
Gila River at Ashurst-Hayden Dam, near Florence (dg) 268
Gila River near Laveen (d) 270
Santa Cruz River near Lochiel (d) 271
Santa Cruz River near Nogales (ds) 272
Santa Cruz River at Continental (d) 274
Airport Wash at Tucson (d) 275
Santa Cruz River at Tucson (d) 276
Tucson Arroyo:
Railroad Wash at Tucson (d) 277
Tucson Arroyo at Vine Avenue, Tucson (d) 278
High School Wash at Tucson (d) 279
Rillito Creek:
Pantano Wash:
Atterbury Wash tributary at Tucson (d) 280
Arcadia Wash at Tucson (d) 281
Santa Cruz River at Cortaro (d) 282
Santa Rosa Wash near Vaiva Vo, near Sells (d) 283
Santa Cruz River near Laveen (cdms) 284
Black River:
East Fork Black River:
North Fork of East Fork Black River:
Seven Springs Draw:
East Fork Seven Springs Draw near Springerville (d) 286
West Fork Seven Springs Draw near Springerville (d) 287
East Fork Black River near Alpine (d) 288
West Fork Black River:
Unnamed stream:
Burro Mountain weir near Greer (d) 289
West Fork Black River near Alpine (d) 290
Beaver Creek near Alpine (d) 291
Heifer Branch near Alpine (d) 292

COLORADO RIVER BASIN—Continued
GILA RIVER BASIN—Continued Page
Black River near Maverick (d) 293
Pacheta Creek at Maverick (d) 294
Black River below pumping plant, near Point of Pines (d) 295
Big Bonito Creek near Fort Apache (d) 296
Black River near Fort Apache (d) 297
North Fork White River near McNary (d) 298
East Fork White River near Fort Apache (d) 299
White River near Fort Apache (d) 301
Salt River:
Carrizo Creek:
Corduroy Creek:
Forestdale Creek:
Forestdale Creek diversion from Show Low Creek, near Show Low (d) 302
Carrizo Creek near Show Low (d) 303
Salt River near Chrysotile (d) 304
Cibecue Creek near Chrysotile (d) 305
Canyon Creek near Globe (d) 306
Cherry Creek near Globe (d) 307
Pinal Creek at Inspiration Dam near Globe (cdm) 308
Salt River near Roosevelt (bcdm) 312
Tonto Creek:
Rye Creek near Gisela (d) 319
Tonto Creek above Gun Creek, near Roosevelt (d) 320
Reservoir system on Salt River at and below Roosevelt Dam (v) 321
Salt River below Stewart Mountain Dam (bcdmqt) 322
Big Chino Wash (head of Verde River):
Williamson Valley Wash near Paulden (cd) 330
Verde River near Paulden (cd) 332
Verde River near Clarkdale (cd) 334
Oak Creek near Sedona (bcms) 336
Oak Creek at Red Rock Crossing near Sedona (bcms) 339
Oak Creek near Cornville (d) 343
Wet Beaver Creek (head of Beaver Creek) near Rimrock (d) 344
Montezuma Well Outlet near Rimrock (d) 345
Rattlesnake Canyon near Rimrock (d) 346
Dry Beaver Creek near Rimrock (cd) 347
West Clear Creek near Camp Verde (d) 349
Verde River near Camp Verde (bcms) 350

COLORADO RIVER BASIN—Continued
GILA RIVER BASIN—Continued
Salt River—Continued
Big Chino Wash (head of Verde River)—Continued Page
Fossil Creek:
Fossil Creek diversions to Childs powerplant, near Camp Verde (d) 355
East Verde River:
East Verde River diversion from East Clear Creek, near Pine (d) 356
East Verde River near Childs (d) 357
Wet Bottom Creek near Childs (cdmprs) 358
Verde River below Tangle Creek, above Horseshoe Dam (d) 363
Reservoir system on Verde River at and below Horseshoe Dam (v) 364
Verde River below Bartlett Dam (bcdmqst) 365
Sycamore Creek:
East Fork Sycamore Creek near Sunflower (d) 372
Sycamore Creek near Fort McDowell (d) 373
Diversions for city of Phoenix from Salt and Verde Rivers near Fort McDowell (d) 374
Verde River near Scottsdale (d) 375
Diversions from Salt River at Granite Reef Dam (d) 376
Diversions for city of Phoenix from Arizona Canal, at Phoenix (d) 377
Indian Bend Wash at Scottsdale (d) 378
Salt River at Jointhead Dam at Phoenix (d) 379
Salt River tributary in South Mountain Park, at Phoenix (d) 380
Cave Creek at Phoenix (d) 381
Agua Fria River near Mayer (d) 382
Turkey Creek near Cleator (cdp) 383
Agua Fria River near Rock Springs (d) 387
Agua Fria River at Waddell Dam (d) 388
Lake Pleasant at Waddell Dam (v) 389
New River near Rock Springs (d) 390
New River at New River (d) 391
New River at Bell Road, near Peoria (d) 392
Skunk Creek near Phoenix (d) 394
Agua Fria River at Avondale (d) 395
Gila River at U.S. Highway 80 near Buckeye (d) 396
Hassayampa River at Box damsite, near Wickenburg (d) 398
Hassayampa River near Arlington (d) 399

COLORADO RIVER BASIN—Continued
GILA RIVER BASIN—Continued
Salt River—Continued
Page
Centennial Wash at Southern Pacific Railroad bridge near Arlington (d) 400
Gila River above diversions, at Gillespie Dam (bcdmpqst) 401
Gila River below Gillespie Dam (d) 411
Gila River below Painted Rock Dam (d) 412
Gila River near Mohawk (d) 413
Gila River near Dome (d) 414
Gila River near mouth, near Yuma (bcdmqs) 415
Colorado River below Yuma Main Canal wasteway, at Yuma (d) 425
Colorado River at northerly international boundary above Morelos Dam, near Andrade, CA (bcdmpq) 427
Colorado River at southerly international boundary, near San Luis (c) 450
DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM
Diversions at and below Imperial Dam, AZ-CA (d) 451
Gila Gravity Main Canal at Imperial Dam, AZ-CA (cdt) 454
All-American Canal near Imperial Dam, AZ-CA (d) 457
Yuma Main Canal at siphon-drop powerplant, near Yuma (d) 458
Yuma Main Canal wasteway at Yuma (d) 459
Yuma Main Canal below Colorado River siphon, at Yuma (d) 460
Pilot Knob powerplant and wasteway near Pilot Knob, CA (d) 461
All-American Canal below Pilot Knob wasteway, CA (d) 462
Return surface flows below Imperial Dam, AZ-CA (d) 463
Mittry Lake Outlet Channel near Yuma (c) 469
North Gila drain No. 1 near Yuma (c) 470
North Gila drain No. 3 near Yuma (c) 471
South Gila Pump Outlet Channel No. 3 near Yuma (cq) 472
Bruce Church drain near Yuma (c) 475
South Gila Pump Outlet Channel No. 2 near Yuma (cq) 476
Wellton-Mohawk Main Outlet drain near Yuma (cq) 480
South Gila Pump Outlet Channel No. 1 near Yuma (cq) 484

COLORADO RIVER BASIN—Continued Page
South Gila Pump Outlet Channel No. 4 near Yuma (cq) 488
Reservation Main drain No. 4 at Yuma (cp) 491
Yuma Mesa Outlet drain at Yuma (c) 492
Drain 8-B near Yuma (c) 493
Main drain at southerly international boundary, near San Luis (cmp) 494
RIO SONOYTA BASIN
SAN SIMON WASH BASIN
San Simon Wash near Pisinimo (d) 497
Vamori Wash at Kom Vo (bcdms) 498
SULPHUR SPRING VALLEY
WHITEWATER DRAW BASIN
Whitewater Draw near Douglas (bcdms) 501

INTRODUCTION

Water resources data for the 1980 water year for Arizona consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; measurements of ground-water levels; and quality of water from selected wells. Also included are discharge data for crest-stage partial-record stations and water-quality data for partial-record stations. Locations of the gaging stations are shown in figures 4, 6, and 7, and of water-quality stations in figures 5 and 6. Additional water data were collected at various sites, which are not part of the systematic data-collection program, and are published as miscellaneous measurements or miscellaneous water-quality analyses. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Arizona.

Records of discharge or stage of streams and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." These water-supply papers were in an annual series through water year 1960 and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Virginia 22304.

For water years 1961-74, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. For water years 1964-74, water-quality records were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report AZ-80-1." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the district chief at the address given on the back of the title page or by telephone (602) 792-6671.

COOPERATION

The U.S. Geological Survey and organizations of the State of Arizona have had cooperative agreements for the systematic collection of surface-water records since 1912, for ground-water levels since 1939, and for water-quality records since 1969. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Arizona Department of Health Services, W. H. Schafer, assistant chief, Technical Services and Support.
Arizona Department of Water Resources, W. E. Steiner, director.
Arizona Game and Fish Department, Bud Bristow, director.
Salt River Valley Water Users' Association, K. F. Abel, president, and R. W. Teeples, associate general manager, Water Resources Operations.
Flood Control District of Maricopa County, William D. Mathews, chief engineer and general manager.
Gila Valley Irrigation District, S. L. Pace, president.
San Carlos Irrigation and Drainage District, C. L. Skousen, president, and N. M. Soma, district manager.
Show Low Irrigation Company, Chester Adams, secretary-treasurer.
Pima County Board of Supervisors, E. S. Walker, chairman.
Maricopa County Municipal Water Conservation District No. 1, S. L. Libby, president, and J. A. Falbo, secretary-manager.
City of Flagstaff, Paul Babbitt, Jr., mayor, and Warren B. Browning, city manager.
City of Tucson, Lewis Murphy, mayor, J. D. Valdez, manager, and F. R. Emmett, city engineer.
Metropolitan Water District of Southern California, J. H. Lauten, general manager, to January 1, 1979; E. L. Griffith, general manager, thereafter; and C. E. Hildebrand, principal engineer.
University of Arizona, Sol Resnick, director, Water Resources Research Center.

Assistance in the form of funds or services was given by the U.S. Water and Power Resources Service (formerly Bureau of Reclamation), U.S. Department of the Interior, for 30 gaging stations

published in this report; by the Corps of Engineers, U.S. Army, in collecting records for 14 stations; and by the Federal Power Commission for 2 stations. Assistance in collecting records was furnished by the Arizona Public Service Co. Organizations that supplied data are acknowledged in station descriptions.

HYDROLOGIC CONDITIONS

As is common in Arizona, streamflow varied greatly in the 1980 water year—from month to month throughout the year and from place to place in the State. The variations are related to differences in precipitation, temperature, topography, and geology. The yearly mean discharge at six key gaging stations ranged from 32 to 403 percent of the median of yearly mean discharges. The median of the yearly mean discharges is defined as the middle value of discharge when arranged in order of size. For the index stations, the median is computed from the yearly mean discharges for the 1951-80 period of record.

The yearly mean discharge for the 1980 water year was excessive at five index stations and deficient at one station. Excessive discharge is defined as a discharge greater than the 75 percent quartile, i.e., greater than 75 percent of the values arranged in order of magnitude; deficient discharge is less than the 25 percent quartile. The flow of the San Pedro River at Charleston was deficient for the 1980 water year. The flow at three stations—Salt River near Roosevelt, Verde River below Tangle Creek above Horseshoe Dam, and Virgin River at Littlefield—was excessive from January through July.

The yearly mean discharge for the 1980 water year and the relation to the median of yearly mean discharges for the period 1951-80 for the six index gaging stations are given below.

Station	Discharge (acre-feet)	Percent of median
Little Colorado River near Cameron	333,300	†224
Virgin River at Littlefield	450,300	†389
Gila River at head of Safford Valley, near Solomon	446,900	†225
San Pedro River at Charleston	9,590	‡37
Salt River near Roosevelt	1,342,000	†368
Verde River below Tangle Creek, above Horseshoe Dam	1,166,000	†381

†Excessive
‡Deficient

The discharge of the Colorado River near Grand Canyon was 11,440,000 acre-ft (14,100 hm^3); the flow of the Colorado River at this point is affected by storage in upstream reservoirs, and this gaging station is no longer used as an index station.

The discharge of the Santa Cruz River at Tucson was only 5,710 acre-ft (7.04 hm^3) for the 1980 water year, which is slightly less than 57 percent of the median flow for the period of record, 1906-80. The Santa Cruz River is an intermittent stream that is subject to large variations in flow—from place to place along the river and from time to time. For example, the flow for 1965 was only 9 percent of median but for 1979 was 770 percent of median.

Two periods of flooding occurred in Arizona in mid-February—February 14-15 and February 19-20. The largest floods originated in the mountains of central Arizona; the Salt River is the principal stream draining from the mountains. Large amounts of runoff also occurred in north flowing tributaries of the Little Colorado River, in the Bill Williams River basin, and in streams that are tributary to the Gila River between Phoenix and Gillespie Dam.

Severe flooding occurred near Phoenix when the volume of flow into the water-storage reservoirs on the Salt, Verde, and Agua Fria Rivers greatly exceeded the capacity of the reservoirs to store the water. The peak inflow rate to Roosevelt Lake during the February 1980 floods is probably the second highest since storage in the reservoir began in 1910. Large releases from all the reservoirs were necessary during and following the February 1980 floods because they were nearly full as a result of extremely large quantities of runoff during 1978 and 1979. The 1978-80 period is the first since the reservoirs were completed in which large releases were made in three consecutive years. The resulting floods near Phoenix were the highest since 1905 on the Salt River, since 1919 on the Agua Fria River downstream from Waddell Dam, and since 1916 on the Gila River below the Salt River. The peak discharges downstream from the reservoirs were: 170,000 ft^3/s (4,810 m^3/s) on the Salt River at Jointhead Dam at Phoenix on February 15; 66,600 ft^3/s (1,890 m^3/s) on the Agua Fria River at Waddell Dam on February 20; and 178,000 ft^3/s (5,040 m^3/s) on the Gila River below Gillespie Dam on February 17. Minor flooding occurred in the Little Colorado River, Bill Williams River, and Gila River above San Carlos Reservoir. The floods caused $63.6 million damage in Maricopa County and at least $15 million in other counties; three deaths resulted from the floods. Peak discharges for selected stations in the areas affected by the February 1980 flooding and the previous maximum are given on the following page.

Storage increased in some of the major reservoirs and decreased in others during the 1980 water year. Change in contents during the year and percentage of average contents on September 30 for the period of record for several reservoirs are given on page 6.

Station	Period of record	Discharge				
		February 1980		Previous maximum		
		Cubic feet per second	Cubic meters per second	Year	Cubic feet per second	Cubic meters per second
09498500 Salt River near Roosevelt, AZ	1906-80	99,000	2,800	1941	117,000	3,310
09499000 Tonto Creek above Gun Creek, near Roosevelt, AZ	1913-80	61,400	1,740	1979	61,400	1,740
09502000 Salt River below Stewart Mountain Dam, AZ	1930-80	75,200	2,130	1979	65,000	1,840
09508500 Verde River below Tangle Creek, above Horseshoe Dam, AZ	1924-80	94,800	2,680	1938	100,000	2,830
09510000 Verde River below Bartlett Dam, AZ	1888-1939	-------	-----	1891	>150,000	>4,250
	1939-80	97,300	2,760	1978	101,000	2,860
09512170 Salt River at Jointhead Dam, at Phoenix, AZ	1871-1939	-------	-----	1891	300,000	8,500
	1939-80	170,000	4,810	1978	140,000	3,960
09513000 Agua Fria River at Waddell Dam, AZ (outflow)	1891-1928	-------	-----	1916	105,000	2,970
	1928-80	66,600	1,890	1978	59,900	1,700
09519500 Gila River below Gillespie Dam, AZ	1871-1921	-------	-----	1891	250,000	7,080
	1921-80	178,000	5,040	1978	125,000	3,540

Reservoir	Change in contents, 1980 water year (acre-feet)	Average contents on September 30 (percent)
Lake Powell	+1,447,000	---
Lakes Mead-Mohave....	+1,412,000	127
San Carlos Reservoir ..	-136,000	525
Salt-Verde system	-62,300	211
Lake Pleasant	+3,000	297

Diversions of streamflow for irrigation of Arizona lands in the 1980 water year was 3,500,000 acre-ft (4,316 hm^3), slightly more than in 1979. About 1,601,000 acre-ft (1,974 hm^3) was diverted from the Colorado River for use by the Colorado River Indian Reservation, the Gila Project, and the Yuma Project. About 810,000 acre-ft (999 hm^3) of the water diverted from the Colorado River was returned to the river or was discharged across the Arizona-Sonora international boundary. About 1,878,000 acre-ft (2,316 hm^3) of streamflow was diverted from the Gila River basin for use in Safford Valley, the San Carlos Project, and the Salt River Project.

Figure 1 shows the discharge for the 1980 water year compared with the median runoff for the period 1951-80 at three representative gaging stations for which long-term records are available.

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also the table "Factors for conversion of inch-pound units to International System (SI) Units" on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons, or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

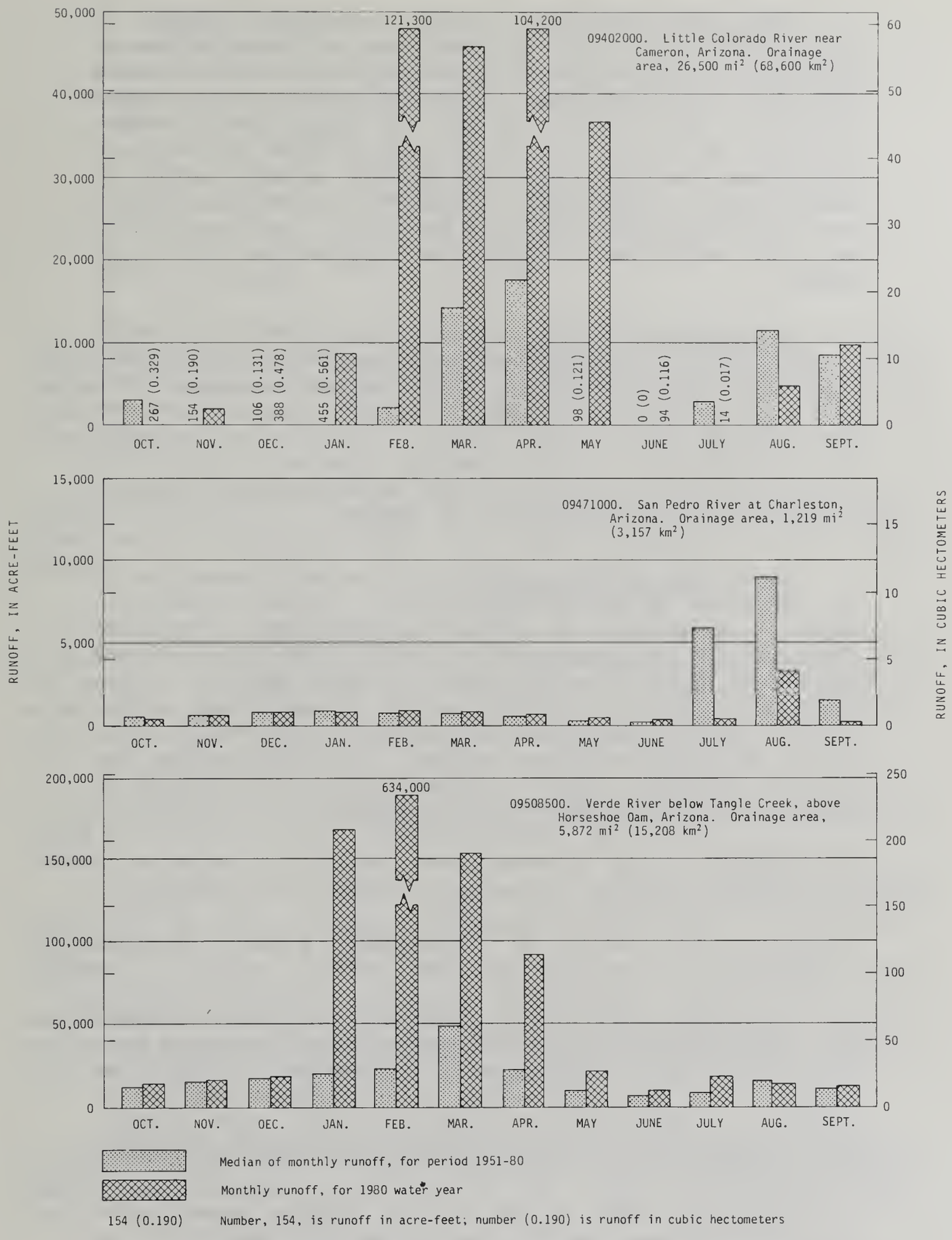

09402000. Little Colorado River near Cameron, Arizona. Orainage area, 26,500 mi² (68,600 km²)
121,300
104,200
267 (0.329)
154 (0.190)
106 (0.131)
388 (0.478)
455 (0.561)
98 (0.121)
0 (0)
94 (0.116)
14 (0.017)
09471000. San Pedro River at Charleston, Arizona. Orainage area, 1,219 mi² (3,157 km²)
09508500. Verde River below Tangle Creek, above Horseshoe Oam, Arizona. Orainage area, 5,872 mi² (15,208 km²)
634,000
OCT. NOV. OEC. JAN. FE8. MAR. APR. MAY JUNE JULY AUG. SEPT.
OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT.
OCT. NOV. OEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT.
RUNOFF, IN ACRE-FEET
RUNOFF, IN CUBIC HECTOMETERS
Median of monthly runoff, for period 1951-80
Monthly runoff, for 1980 water year
154 (0.190) Number, 154, is runoff in acre-feet; number (0.190) is runoff in cubic hectometers

Figure 1.--Runoff during 1980 water year compared with median runoff for period 1951-80 for three representative gaging stations.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria, which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms that produce colonies within 24 hours when incubated at 35°C±1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warmblooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C±0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestines of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C± 1.0°C on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as numbers of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for the ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism that are counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second, and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (mean) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i=1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area are given herein include all closed basins, or non-contributing areas within the area unless otherwise noted.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Micrograms per gram (µg/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

Miscellaneous site is a location other than continuous- or partial-record stations where random discharge measurements are made or samples are collected to give better areal coverage of unusual flow events or water-quality conditions in a river basin.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined either by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	.004 - .062	Sedimentation
Sand	.062 - 2.0	Sedimentation or sieve
Gravel	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants, respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells/mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells/mL of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifiers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Seston is the total suspended particulate matter in water. The concentration of particulate matter has a profound effect upon the optical properties of the water, and upon the concentration of dissolved materials in the water. Their concentrations are expressed as number of colonies per 100 mL of sample.

Sodium-adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may even vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexageria
Species	Hexagenia limbata

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph or a digital mechanism that automatically records water temperature on paper tape.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour day.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

WRD is used as an abbreviation for "Water Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBERS

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 09402500, which appears just to the left of the station name, includes the 2-digit part number "09" plus the 6-digit downstream order number "402500."

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid (see fig. 2). In addition to the well number based on latitude and longitude, a local well number is given based on the Gila and Salt River meridian and base line (see fig. 3). A different numbering system is used on the Navajo and Hopi Indian Reservations. The Navajo Indian Reservation is divided into 17 administrative districts, numbered 1 to 5 and 7 to 18, and the Hopi Indian Reservation comprises district 6. The area is further divided into 15-minute quadrangles arbitrarily numbered from 1 to 151 starting in the northeast corner of the area and numbering consecutively in rows from east to west. Within the 15-minute quadrangle the well is located in miles south and west from the northeast corner of the quadrangle. The first two numbers in the well number represent the district, the next three numbers are the quadrangle, the decimal numbers are miles west by (X) miles south of the northeast corner of the quadrangle. Thus, the number 02 021-05.28X10.68 states that the well is in district 2, quadrangle 21, and is 5.28 miles west by 10.68 miles south of the northeast corner of the quadrangle.

SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin. Included in this program in Arizona is station 09508300, Wet Bottom Creek near Childs.

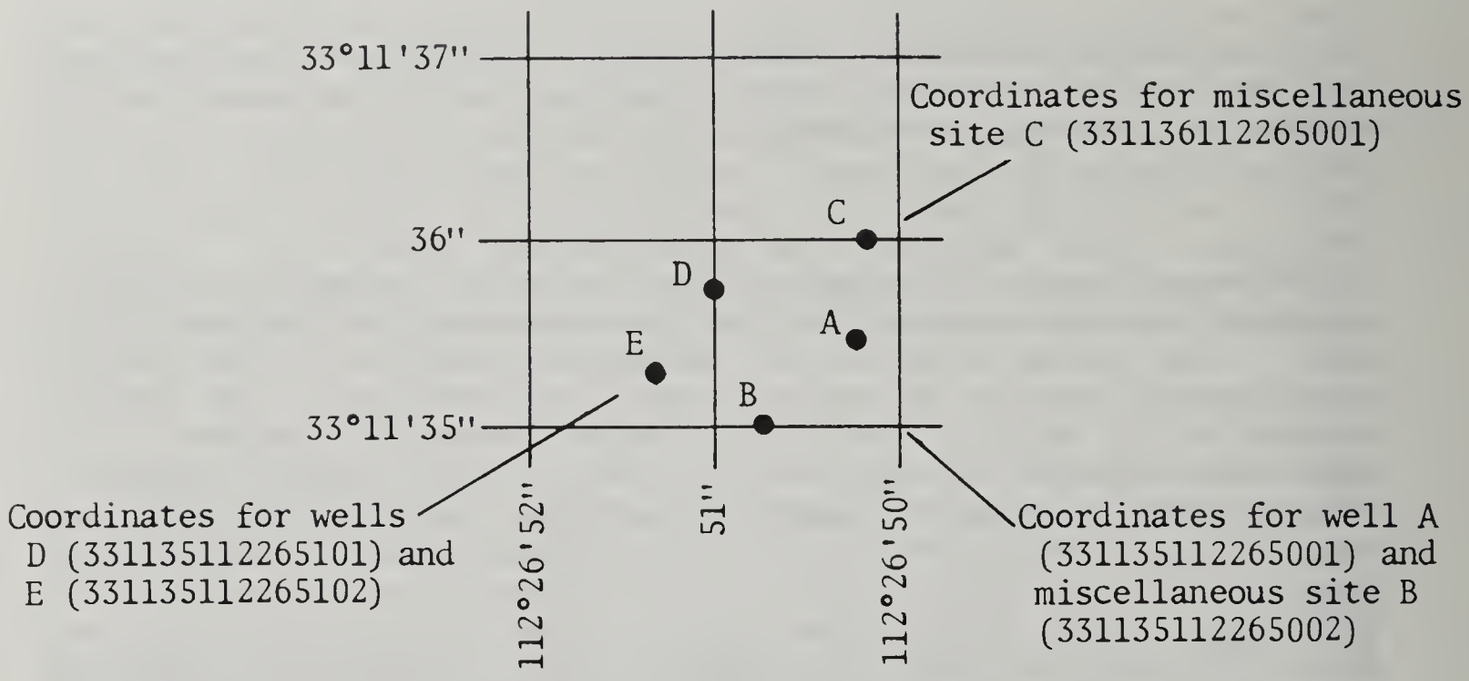
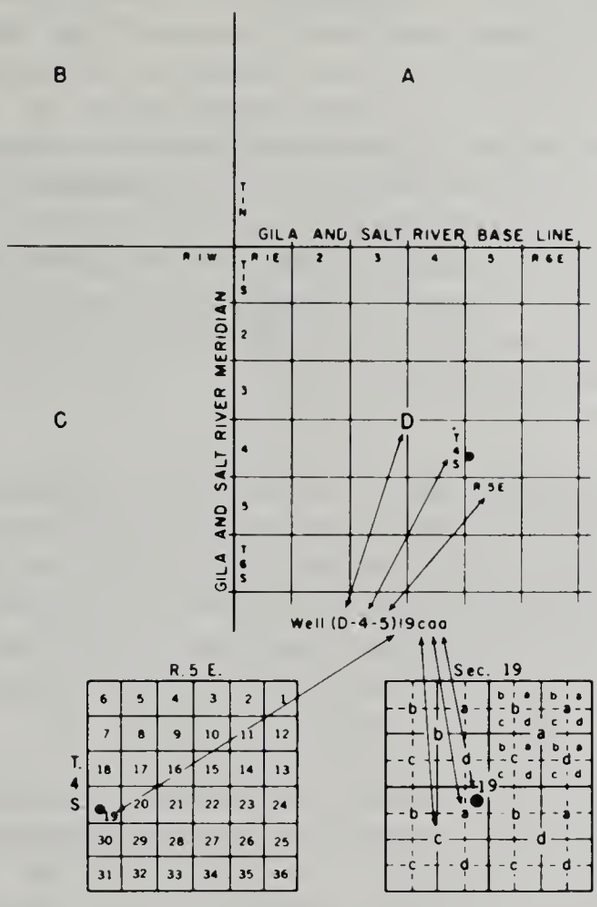


Figure 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality. Included in this network in Arizona are stations 09380000, Colorado River at Lees Ferry; 09401200, Little Colorado River at Cameron; 09421500, Colorado River below Hoover Dam, AZ-NV; 09426600, Bill Williams River near Planet; 09429490, Colorado River above Imperial Dam, AZ-CA; 09466500, Gila River at Calva; 09473500, San Pedro River at Winkelman; 09474000, Gila River at Kelvin; 09489000, Santa Cruz River near Laveen; 09502000, Salt River below Stewart Mountain Dam; 09510000, Verde River below Bartlett Dam; 09518000, Gila River above diversions, at Gillespie Dam; 09520700, Gila River near mouth, near Yuma; 09522000, Colorado River at northerly international boundary above Morelos Dam, near Andrade, CA; 09535300, Vamori Wash at Kom Vo; and 09537500, Whitewater Draw near Douglas.



The well numbers used by the Geological Survey in Arizona are in accordance with the Bureau of Land Management's system of land subdivision. The land survey in Arizona is based on the Gila and Salt River meridian and base line, which divide the State into four quadrants. These quadrants are designated counterclockwise by the capital letters A, B, C, and D. All land north and east of the point of origin is in A quadrant, that north and west in B quadrant, that south and west in C quadrant, and that south and east in D quadrant. The first digit of a well number indicates the township, the second the range, and the third the section in which the well is situated. The lowercase letters a, b, c, and d after the section number indicate the well location within the section. The first letter denotes a particular 160-acre tract, the second the 40-acre tract, and the third the 10-acre tract. These letters also are assigned in a counterclockwise direction, beginning in the northeast quarter. If the location is known within the 10-acre tract, three lowercase letters are shown in the well number. In the example shown, well number (D-4-5)19caa designates the well as being in the NE¼NE¼SW¼ sec. 19, T. 4 S., R. 5 E. Where more than one well is within a 10-acre tract, consecutive numbers beginning with 1 are added as suffixes.

Figure 3.--Well-numbering system in Arizona.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity. Included in this network in Arizona are stations 09380000, Colorado River at Lees Ferry; 09401200, Little Colorado River at Cameron; 09426600, Bill Williams River near Planet; 09518000, Gila River above diversions, at Gillespie Dam; and 09522000, Colorado River at northerly international boundary above Morelos Dam, near Andrade, CA.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States. Included in this network in Arizona is station 09522000, Colorado River at Northerly International Boundary above Morelos Dam, near Andrade, CA.

Tritium network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States. Included in this network in Arizona is station 09429490, Colorado River above Imperial Dam, AZ-CA.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in

standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A-6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by hydrologists and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the

reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Publication of data

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes or reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or the stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph

headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge were affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use; the datum of the present gage referred to National Geodetic Vertical Datum of 1929; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum of 1929 is explained in "Definition of Terms."

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum

discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

Skeleton rating tables are published, immediately following EXTREMES, for stream-gaging stations where they serve a useful purpose and the dates of applicability can be easily identified.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair", within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations,

figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for change in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of discharge collected by agencies other than the Geological Survey

The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, Va. 22092, maintains an index of records of discharge not published by the Geological Survey. Information on records available at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface-water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small daily temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection and publication of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude (see figure 2) and (2) a local number that is provided for local needs (see figure 3).

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum referenced to National Geodetic Vertical Datum of 1929 (NGVD) is given. National Geodetic Vertical Datum of 1929 is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

1-D1. *Water temperature--influential factors, field measurement, and data presentation,* by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents,* by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
2-D1. *Application of surface geophysics to ground-water investigations,* by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
2-E1. *Application of borehole geophysics to water-resources investigations,* by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
3-A1. *General field and office procedures for indirect discharge measurements,* by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
3-A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
3-A6. *General procedure for gaging streams,* by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
3-A7. *Stage measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
3-A8. *Discharge measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
3-A11. *Measurement of discharge by moving-boat method,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
3-B1. *Aquifer-test design, observation, and data analysis,* by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction,* by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
3-C1. *Fluvial sediment concepts,* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
3-C2. *Field methods for measurement of fluvial sediment,* by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
4-A2. *Frequency curves,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
4-B3. *Regional analyses of streamflow characteristics,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
4-D1. *Computation of rate and volume of stream depletion by wells,* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
5-A2. *Determination of minor elements in water by emission spectroscopy,* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
5-A3. *Methods for analysis of organic substances in water,* by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
5-C1. *Laboratory theory and methods for sediment analysis,* by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water,* by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
8-A1. *Methods of measuring water levels in deep wells,* by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
8-B2. *Calibration and maintenance of vertical-axis type current meters,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

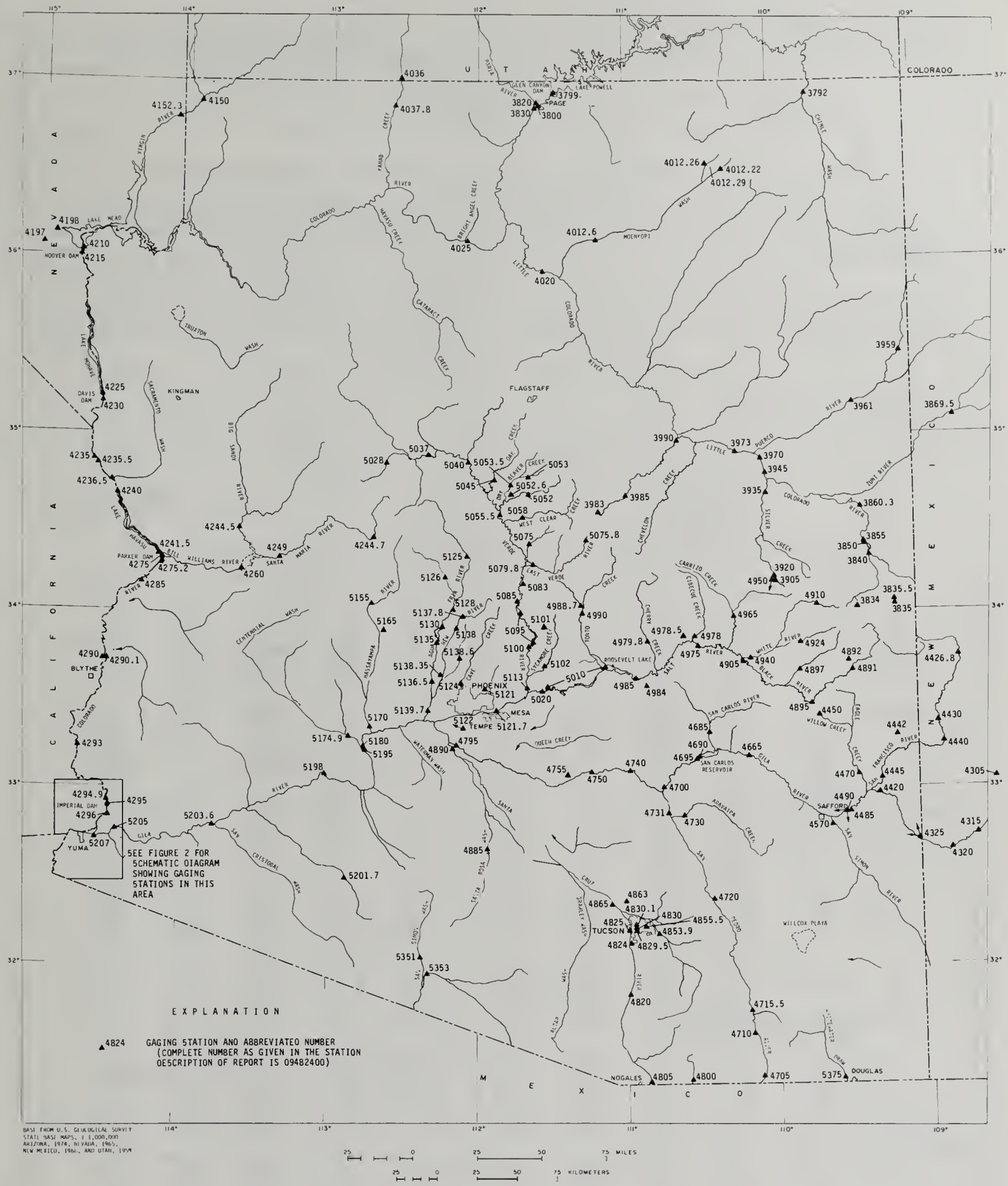


Figure 4.--Map of Arizona showing location of gaging stations.

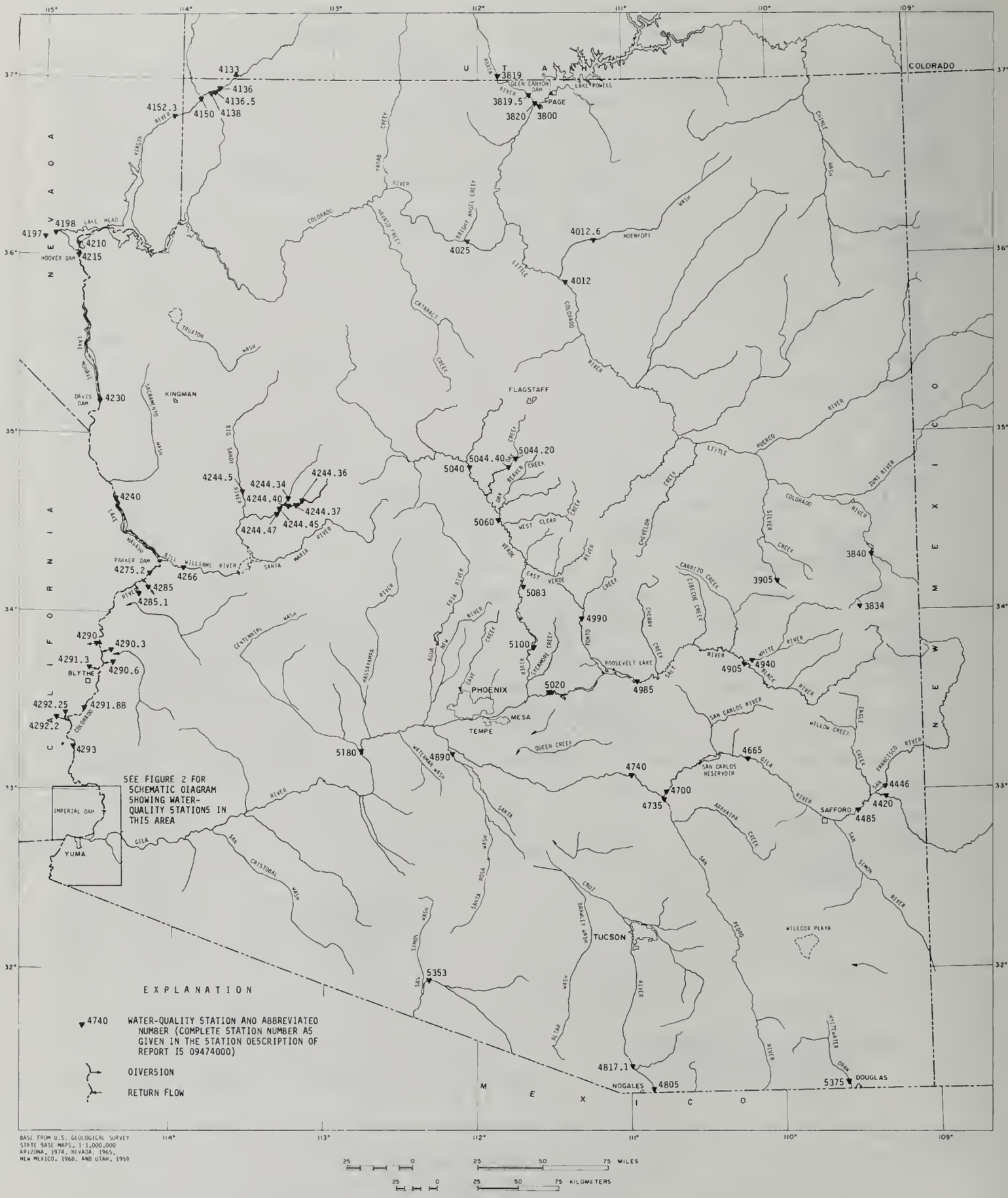


Figure 5.--Map of Arizona showing location of water-quality stations.

SAN JUAN RIVER BASIN

09379200 CHINLE CREEK NEAR MEXICAN WATER, AZ

LOCATION.--Lat 36°56'38", long 109°42'36", in sec.19, T.41 N., R.25 E. (unsurveyed), Apache County, Hydrologic Unit 14080204, in Navajo Indian Reservation, on right bank 150 ft (46 m) upstream from bridge on U.S. Highway 160, 3 mi (5 km) upstream from Walker Creek, 4 mi (6 km) southwest of Mexican Water, 5 mi (8 km) downstream from confluence of Chinle Wash and Laguna Creek, and 6 mi (10 km) upstream from Arizona-Utah State line.

DRAINAGE AREA.--3,660 mi^2 (9,480 km^2), approximately, of which 360 mi^2 (932 km^2) is noncontributing.

PERIOD OF RECORD.--October 1964 to current year (monthly discharge only for 1979). Prior to October 1970 published as Chinle Wash near Mexican Water.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,720 ft (1,439 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Some diversions upstream for irrigation, stock tanks, and domestic use. Many Farms Reservoir, about 25 mi (40 km) upstream, was built in 1939 with an original capacity of 25,000 acre-ft (30.8 hm^3). The reservoir provides off-channel storage for irrigation of about 1,600 acres (6.48 km^2).

AVERAGE DISCHARGE.--16 years, 22.6 ft^3/s (0.640 m^3/s), 16,370 acre-ft/yr (20.2 hm^3/yr); median of yearly mean discharges, 16 ft^3/s (0.45 m^3/s), 11,600 acre-ft/yr (14 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,880 ft^3/s (280 m^3/s) Sept. 7, 1970, gage height, 7.55 ft (2.301 m), from rating curve extended above 600 ft^3/s (17 m^3/s) on basis of slope-area measurements at gage heights 5.4, 6.1, and 7.55 ft (1.65, 1.86, and 2.301 m); no flow at times in each year. The flood of Sept. 7, 1970, is the highest since at least 1950 (information from a local resident).

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 500 ft^3/s (14 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 21	Unknown	816	23.1	a4.92	1.500	May 8	1700	1,020	28.9	5.17	1.576
Feb. 20	Unknown	1,190	33.7	a5.34	1.628	Sept. 10	1200	*1,630	46.2	5.73	1.746

No flow for many days.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	3.0	3.0	2.0	30	76	13	600	22	.00	.00	.00
2	.00	3.0	3.0	2.0	21	64	18	500	18	.00	.00	.00
3	.00	3.0	3.0	2.0	17	54	19	500	11	.00	.00	.00
4	.00	3.0	3.0	2.0	14	47	17	400	8.0	.00	.10	.00
5	.00	3.0	3.0	2.0	12	42	21	400	8.4	.00	.00	.40
6	.00	3.0	4.0	2.0	10	37	73	400	4.3	.00	.00	1.0
7	.00	3.0	5.0	3.0	10	34	102	500	1.1	.00	.00	5.8
8	.00	100	6.0	4.0	9.0	31	140	744	1.2	.00	.00	13
9	.00	70	7.0	4.0	8.0	28	138	624	.40	.00	.00	19
10	.00	35	8.0	5.0	8.0	25	158	558	.10	.00	.00	323
11	.00	23	10	200	7.0	23	160	445	.00	.00	.00	265
12	.00	18	10	180	7.0	21	184	440	.00	.00	.00	80
13	.00	12	10	160	70	20	134	400	.00	.90	.00	32
14	.00	10	10	145	68	19	117	322	.00	9.2	13	17
15	.00	9.0	10	130	66	18	109	301	.00	2.5	12	11
16	.00	7.0	10	118	64	17	114	259	.00	.00	25	7.0
17	.00	7.0	10	105	62	16	134	241	.00	.00	7.7	4.5
18	.00	6.0	10	96	60	15	172	204	.00	.00	1.3	4.3
19	.00	5.0	10	86	60	14	196	194	.00	.00	.10	4.0
20	.00	5.0	10	80	1000	6.0	244	184	.00	.00	.00	3.3
21	125	4.0	10	80	824	2.0	307	170	.00	.00	.00	3.0
22	80	4.0	10	36	594	2.0	490	140	.00	.00	.00	2.7
23	45	4.0	10	21	390	3.0	520	120	.00	.00	.00	2.4
24	24	4.0	10	15	283	2.0	546	100	.00	.00	.00	2.1
25	10	4.0	10	12	232	4.0	540	80	.00	.00	48	1.9
26	6.0	4.0	10	11	186	4.0	405	60	.00	.00	50	1.7
27	5.0	4.0	7.0	9.0	158	3.0	330	63	.00	.00	22	1.5
28	4.0	4.0	4.0	8.0	138	4.0	382	51	.00	.00	5.9	1.3
29	4.0	4.0	2.0	8.0	104	4.0	480	42	.00	.00	1.1	1.1
30	4.0	4.0	2.0	8.0	---	3.0	630	30	.00	.00	.40	1.0
31	4.0	---	2.0	50	---	8.0	---	28	---	.00	.00	---
TOTAL	311.00	368.0	222.0	1586.0	4512.0	646.0	6893	9100	74.50	12.60	186.60	809.00
MEAN	10.0	12.3	7.16	51.2	156	20.8	230	294	2.48	.41	6.02	27.0
MAX	125	100	10	200	1000	76	630	744	22	9.2	50	323
MIN	.00	3.0	2.0	2.0	7.0	2.0	13	28	.00	.00	.00	.00
AC-FT	617	730	440	3150	8950	1280	13670	18050	148	25	370	1600

CAL YR 1979 TOTAL 15360.40 MEAN 42.1 AC-FT 30467
WTR YR 1980 TOTAL 24720.70 MEAN 67.5 MAX 1000 MIN .00 AC-FT 49030

09379900 LAKE POWELL AT GLEN CANYON DAM, AZ

LOCATION.--Lat 36°56'12", long 111°29'00", in sec.24, T.41 N., R.8 E., Coconino County, Hydrologic Unit 14070006, at Glen Canyon Dam on Colorado River, 900 ft (270 m) upstream from bridge on U.S. Highway 89, 1.4 mi (2.3 km) downstream from Wahweap Creek, 2 mi (3 km) northwest of Page, and 12 mi (19 km) downstream from Utah-Arizona State line.

DRAINAGE AREA.--111,700 mi^2 (289,300 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--March 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1964, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-arch gravity dam; storage began Mar. 13, 1963; dam completed September 1963. Total capacity, 27,000,000 acre-ft (33,300 hm^3), consisting of the following: dead storage, 1,998,000 acre-ft (2,460 hm^3) below elevation 3,370 ft (1,027 m)--sill of outlet gates; usable contents, 25,002,000 acre-ft (30,800 hm^3) between elevations 3,370 ft (1,027 m) and 3,700 ft (1,128 m)--top of conservation pool. Reservoir is used for power development, to provide storage replacement for upstream irrigation development, and to meet downstream requirements under the Colorado River Compact of 1922. Figures given herein represent usable contents; prior to Oct. 1, 1968, figures of total contents were published (prior to sealing of diversion tunnel July 7, 1965, all storage was usable).

COOPERATION.--Records furnished by U.S. Water and Power Resources Service (formerly U.S.Bureau of Reclamation).

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 25,099,000 acre-ft (30,900 hm^3) June 28, 1980, elevation, 3,700.61 ft (1,127.946 m); minimum since power pool level was reached (Aug. 16, 1964), 4,166,000 acre-ft (5,140 hm^3) Mar. 18, 1965, elevation, 3,490.76 ft (1,063.984 m).

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 25,099,000 acre-ft (30,900 hm^3) June 28, elevation, 3,700.61 ft (1,127.946 m); minimum, 20,808,000 acre-ft (25,700 hm^3) Dec. 21, elevation, 3,672.36 ft (1,119.335 m).

Capacity table (elevation, in feet, and usable contents, in acre-feet)

3,670	20,474,000	3,690	23,424,000
3,675	21,187,000	3,695	24,204,000
3,680	21,916,000	3,700	25,002,000
3,685	22,662,000	3,705	25,818,000

RESERVOIR STORAGE, IN THOUSANDS OF ACRE FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21630	21323	20949	20865	20886	21085	21245	21630	23756	25075	24382	23482
2	21611	21301	20930	20865	20882	21098	21245	21692	23809	25062	24347	23462
3	21605	21281	20909	20860	20885	21113	21247	21755	23870	25056	24326	23445
4	21598	21268	20898	20856	20886	21111	21242	21822	23923	25059	24290	23419
5	21589	21258	20890	20848	20876	21121	21239	21875	23975	25054	24257	23403
6	21580	21235	20883	20852	20885	21143	21239	21934	24022	25043	24222	23374
7	21580	21219	20880	20845	20885	21156	21238	22010	24082	25049	24189	23351
8	21567	21222	20882	20852	20879	21167	21225	22072	24140	25025	24161	23329
9	21553	21200	20888	20821	20870	21186	21219	22150	24198	25019	24120	23329
10	21537	21189	20863	20835	20863	21195	21215	22235	24254	25006	24050	23337
11	21515	21193	20860	20832	20855	21196	21203	22335	24306	24988	24050	23337
12	21497	21183	20848	20839	20852	21206	21196	22413	24380	24975	24003	23332
13	21490	21173	20833	20858	20849	21226	21172	22498	24444	24948	23972	23331
14	21487	21159	20825	20869	20846	21231	21160	22566	24515	24930	23930	23326
15	21483	21147	20823	20890	20845	21234	21151	22649	24600	24909	23895	23309
16	21484	21140	20829	20903	20849	21241	21144	22715	24667	24883	23861	23302
17	21474	21134	20826	20905	20859	21241	21141	22772	24718	24861	23831	23292
18	21465	21134	20822	20930	20860	21241	21137	22824	24761	24837	23792	23272
19	21462	21120	20818	20933	20875	21231	21150	22871	24813	24814	23761	23254
20	21478	21094	20811	20935	20900	21228	21173	22927	24864	24788	23738	23237
21	21471	21085	20808	20928	20905	21229	21203	22986	24940	24763	23714	23233
22	21457	21078	20819	20929	20945	21236	21216	23046	25004	24736	23679	23202
23	21441	21074	20822	20930	20960	21249	21244	23113	25038	24699	23651	23183
24	21423	21048	20826	20933	20988	21249	21288	23199	25056	24670	23635	23170
25	21416	21042	20842	20939	21006	21244	21326	23283	25088	24640	23599	23153
26	21416	21031	20840	20942	21034	21241	21372	23372	25090	24600	23590	23142
27	21415	21026	20839	20943	21048	21241	21415	23448	25091	24576	23562	23127
28	21407	21011	20829	20938	21059	21251	21462	23513	25099	24547	23542	23115
29	21393	20989	20829	20925	21079	21260	21524	23578	25096	24501	23524	23093
30	21370	20970	20840	20909	---	21264	21569	23627	25082	24458	23513	23083
31	21349	---	20853	20903	---	21264	---	23689	---	24425	23497	---
MAX	21630	21323	20949	20943	21079	21264	21569	23689	25099	25075	24382	23482
MIN	21349	20970	20808	20821	20845	21085	21137	21630	23756	24425	23497	23083
(†)	3676.13	3673.50	3672.68	3673.03	3674.26	3675.54	3677.64	3691.72	3700.50	3696.40	3690.48	3687.78
(‡)	-287000	-379000	-117000	+50000	+176000	+185000	+305000	+2120000	+1393000	-657000	-928000	-414000

CAL YR 1979 MAX 22626 MIN 15004 ‡ +5168000
WTR YR 1980 MAX 25099 MIN 20808 ‡ +1447000

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
NOTE.--All figures of contents expressed in thousands.

09380000 COLORADO RIVER AT LEES FERRY, AZ
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 36°51'53", long 111°35'15", in NE¼SE¼ sec.13, T.40 N., R.7 E., Coconino County, Hydrologic Unit 14070006, in Navajo Indian Reservation, on left bank at head of Marble Gorge at Lees Ferry, just upstream from Paria River, 16 mi (26 km) downstream from Glen Canyon Dam, 28 mi (45 km) downstream from Utah-Arizona State line, and 61.5 mi (99.0 km) upstream from Little Colorado River.

DRAINAGE AREA.--111,800 mi^2 (289,600 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1895 to current year. Calendar year estimates and monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 859: 1921-23. WSP 1313: 1914-21.

GAGE.--Water-stage recorder. Datum of gage is 3,106.16 ft (946.758 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 19, 1923, nonrecording gages or reference points within 400 ft (120 m) of present gage, at different datums.

REMARKS.--Water-discharge record excellent. Flow completely regulated by Lake Powell 16 mi (26 km) upstream since Mar. 13, 1963. Many diversions above Lake Powell for irrigation, municipal, and industrial use. No diversions or inflow between Lake Powell and the gage.

AVERAGE DISCHARGE.--51 years (water years 1912-62), 17,850 ft^3/s (505.5 m^3/s), 12,923,000 acre-ft/yr (15,900 hm^3/yr); 16 years (water years 1965-80), 12,260 ft^3/s (347.2 m^3/s), 8,882,000 acre-ft/yr (11,000 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 220,000 ft^3/s (6,230 m^3/s) June 18, 1921, gage height, 26.5 ft (8.08 m), from floodmarks, from rating curve extended above 120,000 ft^3/s (3,400 m^3/s) on basis of discharge computed for station near Grand Canyon; minimum daily, 700 ft^3/s (19.8 m^3/s) Jan. 23, 24, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1868, about 300,000 ft^3/s (8,500 m^3/s) July 7, 1884, gage height, 31.5 ft (9.60 m), present site and datum, from floodmark at mouth of Paria River, from rating curve extended above 120,000 ft^3/s (3,400 m^3/s) on basis of discharge computed for flood of June 18, 1921, for station near Grand Canyon.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,800 ft^3/s (1,270 m^3/s) June 24, gage height, 13.87 ft (4.228 m); minimum daily, 1,130 ft^3/s (32.0 m^3/s) Jan. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9500	17600	15200	2650	13100	7650	15300	14100	12000	34200	24100	15300
2	12800	18000	15500	8560	10400	4460	15200	11500	18900	31400	24500	18400
3	11300	14800	14300	9480	6610	6810	11100	11700	19100	29100	22500	14700
4	9470	13000	13600	10200	8950	9520	12900	8810	18100	27000	22500	20800
5	11100	15500	9520	10700	12300	9810	9680	10700	21600	27700	22600	19900
6	8450	17200	12100	6670	12100	7240	9700	12500	21700	28000	22800	16100
7	5060	17800	12800	12900	8450	6020	14100	11600	20300	28800	22600	17900
8	11500	14300	9770	14400	11300	7660	18200	11200	20900	27900	19400	19300
9	12700	17600	7600	16500	14200	3680	13600	10100	24800	25500	25100	19100
10	14100	15200	17200	7910	13400	11000	15000	8450	26200	26600	22800	18700
11	15600	5900	18300	10500	12700	12600	17400	7230	26400	25800	23600	19200
12	13700	12900	16200	3680	10100	8900	11900	9840	25800	26100	24000	19900
13	9170	13800	16000	1130	11300	6050	20800	10800	28100	24600	23800	15100
14	3910	14100	14300	2150	12300	8610	17800	15700	29600	24400	24000	13800
15	5980	13400	7600	5190	12700	9540	16900	12000	23900	23800	23200	18000
16	5720	11400	6380	6800	10600	9490	18200	12800	26900	26400	21100	16500
17	7040	8400	8220	8130	7780	12700	15200	16800	30700	25100	20800	14000
18	7910	6640	10300	12300	12200	11500	15900	16900	29700	24300	21200	16600
19	7300	11200	9920	14000	8780	14700	9910	19400	25200	23100	20600	18000
20	2980	18500	10100	10600	10800	14300	6750	12800	21700	23300	20900	16700
21	4310	14700	10000	14800	13200	12700	11300	11800	6880	23700	16000	14300
22	10500	9550	5120	10200	13300	8660	13400	11900	13400	23500	20700	15900
23	15200	7910	6560	10300	11000	9380	17600	16800	24400	24500	20800	15600
24	14100	14200	8960	8140	9050	13600	17800	16800	32800	24100	18900	15200
25	9380	12700	2020	5810	11200	16200	18500	11100	25300	22800	19700	14100
26	9700	13200	10400	6860	8510	15700	14300	15800	31100	22500	15200	11600
27	6230	11200	11400	7040	9370	11400	11200	19000	34500	24400	18600	14600
28	7580	12600	12500	14000	7320	7550	16200	19000	34100	25300	16200	14200
29	16100	14500	4790	17100	7170	6130	14000	19600	34200	24800	15400	16800
30	18400	16500	2530	18800	---	5310	15300	20500	33900	25500	15400	14400
31	14700	---	2130	15000	---	14500	---	19000	---	24900	15200	---
TOTAL	311490	404300	321320	304570	310190	305370	433140	426230	742180	799100	644600	494700
MEAN	10050	13480	10370	9825	10700	9851	14500	13750	24740	25780	20790	16490
MAX	18400	18500	18300	18800	14200	16200	20800	20500	34500	34200	25100	20800
MIN	2980	5900	2020	1130	6610	3680	6750	7230	6680	22500	15200	11600
AC-FT	617800	801900	637300	604100	615300	605700	863100	845400	1472000	1585000	1279000	981200

CAL YR 1979	TOTAL	4088220	MEAN	11200	MAX	23600	MIN	878	AC-FT	8109000
WTR YR 1980	TOTAL	5499190	MEAN	15030	MAX	34500	MIN	1130	AC-FT	10910000

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January to July 1926, October 1926 to June 1927, October 1928 to December 1933, November 1942 to October 1945, October 1947 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to current year.
WATER TEMPERATURE: July 1949 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1928 to December 1933, November 1942 to September 1944, October 1947 to September 1965.

INSTRUMENTATION.--Specific conductance and water temperature recorder March 1977 to current year.

REMARKS.--Unpublished daily specific conductance measurements for period November 1942 to October 1945, October 1947 to September 1964 available from district office in Tucson, Ariz.
Because of the permanent change in stream characteristics owing to the regulation of flow by Glen Canyon Dam since Mar. 13, 1963, and the subsequent initial filling of Lake Powell, extreme values for the period of daily record now include only those obtained after July 31, 1965, at which time a normal flow release pattern was begun.

COOPERATION.--Pesticide analysis performed by Environmental Protection Agency.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (August 1965 to current year): Maximum, 1,260 micromhos Apr. 20, 21, 1967; minimum, 460 micromhos Aug. 10, 1965.
WATER TEMPERATURES (August 1965 to current year): Maximum, 21.0°C on several days during August, September, and October, 1965, 1967, 1968; minimum, 2.0°C on Jan. 29, 30, 1970.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,030 micromhos Apr. 9, 10; minimum, 727 micromhos June 24.
WATER TEMPERATURES: Maximum, 13.0°C July 2; minimum, 6.0°C Apr. 28-30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
17...	1630	8040	--	7.7	8.0	.30	9.5	K2	<1	270	140
NOV											
15...	1700	11800	908	8.6	6.0	.30	11.5	<1	<1	280	150
DEC											
13...	1400	18900	810	7.8	7.0	1.3	--	<1	<1	290	160
JAN											
16...	1230	12200	848	8.0	8.0	.40	8.2	<1	K6	270	150
FEB											
14...	1330	8230	825	7.8	10.0	.80	--	<1	<1	280	160
MAR											
27...	1400	16800	984	8.0	8.5	1.0	10.0	<1	<1	290	160
APR											
17...	1200	15700	970	--	8.5	.70	9.1	<1	K1	290	160
MAY											
01...	1630	13500	945	8.0	7.0	.60	10.1	<1	<1	290	160
JUN											
04...	1430	21100	880	8.1	9.0	1.5	9.9	<1	<1	270	140
JUL											
02...	1430	31100	750	8.1	13.0	1.2	11.4	K7	K4	250	130
AUG											
06...	1300	22100	765	8.2	9.5	.60	7.9	K4	K1	240	130
SEP											
04...	1330	23000	785	8.0	10.0	.20	9.0	K1	--	240	120

K Based on non-ideal colony count.
< Actual value is known to be less than value shown.

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT											
17...	69	24	74	2.0	3.9	130	230	50	.3	7.1	585
NOV											
15...	70	25	80	2.1	3.7	130	250	50	.2	7.8	575
DEC											
13...	73	26	84	2.2	4.0	130	240	50	.3	8.5	560
JAN											
16...	68	25	74	2.0	3.9	120	240	53	.3	7.4	556
FEB											
14...	69	25	79	2.1	3.7	120	240	52	.3	8.3	560
MAR											
27...	72	27	88	2.2	4.2	130	270	65	.3	7.8	--
APR											
17...	72	27	86	2.2	3.9	130	260	60	.3	7.8	749
MAY											
01...	72	27	87	2.2	3.5	130	240	62	.5	7.9	633
JUN											
04...	66	25	78	2.1	4.0	130	240	56	.2	7.6	581
JUL											
02...	63	23	73	2.0	3.8	120	210	47	--	7.3	540
AUG											
06...	62	21	65	1.8	3.4	110	200	44	.3	7.4	519
SEP											
04...	60	23	69	1.9	4.0	120	210	48	.3	7.7	609

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT											
17...	539	.80	.59	.010	.010	.01	.51	.54	.52	.00	.55
NOV											
15...	568	.78	.64	.010	.010	.01	.50	.51	.51	.00	.52
DEC											
13...	567	.76	.65	.020	.000	.02	1.2	1.2	1.2	.00	1.2
JAN											
16...	546	.76	.53	.020	.010	.02	.83	.90	.85	.00	.91
FEB											
14...	552	.76	.55	.070	.070	.08	.69	.31	.76	.38	.38
MAR											
27...	615	.84	.49	.060	.010	.07	.64	.49	.70	.20	.50
APR											
17...	597	1.02	.44	.000	.010	.00	.54	.45	.54	.08	.46
MAY											
01...	580	.86	.47	.040	.010	.05	.53	.50	.57	.06	.51
JUN											
04...	557	.79	.41	.020	.030	.02	.37	.22	.39	.14	.25
JUL											
02...	495	.73	.00	.010	.000	.01	.47	.30	.48	.18	.30
AUG											
06...	472	.71	.49	.040	.040	.05	1.2	.58	1.2	.58	.62
SEP											
04...	496	.83	.42	.000	.020	.00	.43	.34	.43	.07	.36

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DISSOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)
OCT											
17...	1.1	1.1	4.7	.010	.03	.010	--	--	--	--	--
NOV											
15...	1.2	1.2	5.3	.000	.00	.000	2	1	200	100	100
DEC											
13...	1.9	1.9	8.2	.030	.09	.030	--	--	--	--	90
JAN											
16...	1.4	1.4	6.1	.010	.03	.010	--	--	--	--	--
FEB											
14...	1.3	.93	5.8	.010	.03	.010	3	2	300	100	--
MAR											
27...	1.2	.99	5.4	.050	.15	.080	--	--	--	--	--
APR											
17...	.99	.90	4.4	.010	.03	.010	--	--	--	--	--
MAY											
01...	.99	.98	4.4	.050	.15	.020	1	2	300	90	--
JUN											
04...	.80	.66	3.5	.010	.03	.020	--	--	--	--	--
JUL											
02...	.86	.30	3.8	.010	.03	.010	--	--	--	--	--
AUG											
06...	1.7	1.1	7.4	.040	.12	.030	3	2	100	90	--
SEP											
04...	.91	.78	4.0	.010	.03	.010	--	--	--	--	--

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
OCT											
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
15...	0	<1	0	0	0	<3	2	0	20	<10	2
DEC											
13...	--	--	--	--	--	--	--	--	--	--	--
JAN											
16...	--	--	--	--	--	--	--	--	--	--	--
FEB											
14...	1	<1	0	0	2	<3	8	1	100	<10	10
MAR											
27...	--	--	--	--	--	--	--	--	--	--	--
APR											
17...	--	--	--	--	--	--	--	--	--	--	--
MAY											
01...	0	<1	0	0	0	<3	2	5	60	<10	3
JUN											
04...	--	--	--	--	--	--	--	--	--	--	--
JUL											
02...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	0	<1	10	20	2	<3	14	8	60	<10	5
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)
OCT 17...	--	--	--	--	--	--	--	--	--	--	--
NOV 15...	1	120	<1	.1	.0	0	0	3	3	0	0
DEC 13...	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--	--	--
FEB 14...	8	30	<1	.1	.0	1	2	4	3	1	0
MAR 27...	--	--	--	--	--	--	--	--	--	--	--
APR 17...	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	1	10	<1	.1	.0	1	0	4	4	0	0
JUN 04...	--	--	--	--	--	--	--	--	--	--	--
JUL 02...	--	--	--	--	--	--	--	--	--	--	--
AUG 06...	3	10	2	.0	.0	0	0	3	3	2	0
SEP 04...	--	--	--	--	--	--	--	--	--	--	--

DATE	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)
OCT 17...	--	--	--	--	--	--	--	--	--	--	--
NOV 15...	50	9	--	--	--	1200	--	--	--	--	--
DEC 13...	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	2.7	--	--	--	--	--	--	--	--
FEB 14...	310	5	--	3.6	--	--	.390	.710	368	.870	.090
MAR 27...	--	--	2.9	--	--	120	--	--	--	--	--
APR 17...	--	--	5.1	--	--	--	--	--	--	--	--
MAY 01...	20	<3	--	12	.1	39	--	--	--	--	--
JUN 04...	--	--	8.0	--	--	540	.315	.551	284	.830	.080
JUL 02...	--	--	4.3	--	--	220	--	--	--	--	--
AUG 06...	20	5	--	3.0	.2	1300	--	--	--	--	--
SEP 04...	--	--	3.6	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
DEC												
13...	1400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB												
14...	1330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PCB, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC												
13...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB												
14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
03...	1400	12100	8	261	57
NOV					
01...	1330	22800	115	7080	16
15...	1700	11800	6	191	--
DEC					
13...	1400	18900	8	408	35
JAN					
03...	1500	11300	8	244	51
MAR					
06...	1800	3110	27	227	49
27...	1400	16800	27	1230	40
MAY					
01...	1630	13500	59	2150	60
JUL					
02...	1430	31100	39	3280	--
AUG					
06...	1300	22100	56	3340	--
SEP					
04...	1330	23000	634	39400	1

ND Material specifically analyzed for but not detected.

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	902	886	917	891	856	830	821	800	---	---	919	890
2	903	885	930	888	858	829	816	790	---	---	916	896
3	922	887	930	904	844	815	784	766	---	---	933	911
4	918	881	918	889	840	822	788	775	---	---	938	925
5	911	879	912	889	838	820	798	779	---	---	925	906
6	907	881	917	898	839	821	819	785	---	---	933	913
7	923	877	933	904	840	819	816	787	---	---	952	918
8	899	875	926	894	846	820	808	784	---	---	961	932
9	914	873	907	894	843	822	821	795	---	---	949	924
10	926	887	912	893	835	822	834	798	---	---	956	937
11	922	893	917	882	837	824	884	814	---	---	957	938
12	928	892	914	888	827	803	829	811	---	---	959	942
13	924	888	923	887	831	805	835	---	---	---	965	939
14	923	884	923	891	822	799	840	829	---	---	972	944
15	905	879	915	886	823	800	845	---	---	---	980	952
16	911	875	907	877	825	804	---	---	---	---	978	959
17	907	871	897	861	823	802	---	---	---	---	976	925
18	912	880	894	855	823	802	---	---	---	---	973	925
19	912	889	887	855	818	795	---	---	---	---	971	956
20	918	885	882	869	815	784	---	---	---	---	979	947
21	892	879	892	856	813	800	---	---	---	---	966	938
22	900	858	876	848	823	802	---	---	---	---	974	945
23	899	873	876	852	825	807	---	---	---	---	972	943
24	945	890	873	855	829	813	---	---	---	---	1000	948
25	940	902	870	859	883	813	---	---	907	883	988	958
26	931	895	873	857	831	808	---	---	904	875	985	945
27	936	901	884	850	821	805	---	---	912	883	984	953
28	933	904	865	846	813	795	---	---	916	874	1020	951
29	913	887	862	852	800	787	---	---	918	898	1000	949
30	908	879	859	858	854	794	---	---	---	---	1010	956
31	918	873	---	---	805	798	---	---	---	---	1020	974
MONTH	945	858	933	838	883	784	884	766	918	874	1020	890
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	991	961	943	909	933	901	766	737	---	---	813	763
2	989	959	937	911	941	905	762	732	---	---	804	764
3	1020	956	952	913	917	901	770	761	---	---	794	764
4	1000	963	947	921	909	880	772	760	---	---	805	755
5	1010	971	945	919	918	892	780	767	---	---	796	776
6	1010	968	956	920	916	877	786	768	---	---	796	766
7	1020	996	951	935	890	860	783	770	776	766	797	777
8	1020	963	953	927	889	873	785	749	786	766	788	758
9	1030	981	957	938	870	842	785	769	797	767	809	769
10	1030	968	958	932	863	842	797	782	788	768	789	769
11	995	945	960	935	860	854	805	789	778	768	800	770
12	953	923	958	926	863	847	807	791	779	769	800	770
13	990	940	966	918	850	816	804	788	790	770	791	771
14	1010	938	948	919	835	825	810	790	810	770	792	761
15	1020	945	944	915	838	823	810	787	791	771	803	763
16	983	973	955	913	831	797	820	799	802	782	793	773
17	980	940	953	920	821	795	830	800	783	753	804	774
18	989	959	958	919	808	790	820	790	803	763	795	775
19	967	937	934	911	818	799	810	790	794	764	805	775
20	956	926	935	919	815	797	---	---	815	775	806	777
21	955	935	936	923	821	785	---	---	785	755	797	737
22	944	922	938	922	789	770	---	---	806	---	787	767
23	962	920	943	914	789	766	---	---	797	777	798	778
24	949	910	967	925	776	727	---	---	807	787	808	778
25	958	919	942	893	787	758	---	---	798	748	799	759
26	963	921	947	896	775	763	---	---	809	749	789	769
27	936	907	939	897	762	748	---	---	779	759	791	741
28	942	909	911	898	765	745	---	---	790	760	791	771
29	941	909	925	899	761	743	---	---	781	761	802	772
30	936	887	944	911	760	744	---	---	792	762	802	772
31	---	---	925	909	---	---	---	---	802	762	---	---
MONTH	1030	887	967	893	941	727	830	732	815	748	813	737
YEAR	1030	727										

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.0	8.0	9.5	9.0	9.0	8.5	8.0	7.5	---	---	8.5	8.0
2	9.0	8.0	9.5	9.0	9.0	8.5	9.5	8.0	---	---	8.5	8.0
3	9.0	8.0	9.5	9.0	9.0	8.5	9.5	9.0	---	---	8.5	8.5
4	9.0	8.0	9.5	9.0	8.5	8.0	9.0	9.0	---	---	8.5	8.0
5	9.0	8.0	9.0	8.5	8.5	8.0	9.0	8.5	---	---	8.5	8.0
6	9.0	8.0	9.0	8.5	8.5	8.5	8.5	8.5	---	---	8.5	8.0
7	9.0	8.0	9.0	8.5	8.5	8.0	9.0	8.5	---	---	8.5	8.0
8	9.0	8.0	9.5	9.5	8.5	8.0	9.0	9.0	---	---	9.0	8.0
9	8.5	7.5	9.5	9.0	7.5	7.5	9.5	9.0	---	---	9.0	8.0
10	8.0	7.5	9.5	8.5	8.0	7.5	9.0	9.0	---	---	8.5	8.5
11	8.0	7.5	9.5	8.5	8.0	7.5	9.0	8.0	---	---	8.5	8.0
12	8.0	7.5	9.5	8.5	8.0	7.5	9.0	9.0	---	---	8.5	8.0
13	8.0	7.5	9.0	8.5	8.0	7.5	9.5	9.0	---	---	9.0	8.0
14	8.5	7.5	9.5	8.5	8.0	7.5	9.5	9.0	---	---	9.0	8.0
15	9.0	8.0	9.5	9.0	8.0	7.5	9.5	9.0	---	---	9.0	8.0
16	8.5	7.5	9.5	9.0	7.5	7.5	---	---	---	---	9.0	8.0
17	8.0	8.0	9.5	9.0	7.5	7.5	---	---	---	---	9.0	7.5
18	8.5	7.5	9.5	9.5	8.0	7.5	---	---	---	---	9.0	7.5
19	9.0	8.0	9.5	9.0	8.0	7.5	---	---	---	---	9.0	8.0
20	8.5	8.0	9.0	8.5	8.5	8.0	---	---	---	---	9.0	8.0
21	8.5	7.5	9.0	8.0	8.5	8.0	---	---	---	---	9.0	8.0
22	---	---	8.5	8.0	8.5	8.0	---	---	---	---	8.5	8.0
23	8.5	7.5	9.0	8.0	8.0	7.5	---	---	---	---	9.5	8.5
24	8.5	8.0	9.0	8.0	8.0	7.5	---	---	---	---	9.0	8.0
25	9.0	8.0	9.0	8.5	8.0	7.0	---	---	8.5	7.5	9.0	8.0
26	9.0	8.0	9.0	9.0	9.0	7.5	---	---	8.5	7.5	8.5	8.0
27	9.0	8.5	8.5	8.0	9.0	8.5	---	---	8.5	7.5	9.0	8.0
28	9.0	8.0	8.5	8.0	9.0	8.5	---	---	8.5	7.5	8.5	7.5
29	8.5	8.0	9.0	8.5	8.5	8.5	---	---	8.5	7.5	9.5	8.0
30	8.5	8.0	9.5	8.5	8.5	8.0	---	---	---	---	9.0	8.5
31	9.0	8.0	---	---	8.0	8.0	---	---	---	---	9.0	7.5
MONTH	9.0	7.5	9.5	8.0	9.0	7.0	9.5	7.5	8.5	7.5	9.5	7.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	8.0	7.0	6.0	8.5	7.0	12.5	11.0	---	---	10.5	9.0
2	9.0	8.0	8.0	6.0	8.5	7.0	13.0	10.0	---	---	10.0	9.0
3	9.5	7.5	8.0	6.0	8.5	7.0	11.0	9.5	---	---	10.5	9.5
4	9.5	8.0	8.0	6.0	9.0	7.5	11.5	9.5	---	---	10.0	9.0
5	9.5	8.0	8.0	6.5	8.5	7.0	11.0	9.5	---	---	10.0	9.0
6	9.5	8.0	7.5	6.5	8.5	7.0	10.5	9.5	10.0	8.5	11.0	9.5
7	9.5	8.0	7.0	6.5	8.5	7.5	10.0	9.0	9.5	8.5	10.0	9.5
8	9.0	8.0	8.0	6.5	9.0	7.0	10.5	9.0	9.5	8.5	10.5	10.0
9	9.5	8.0	7.0	6.0	9.0	7.5	11.0	9.0	9.5	8.5	10.0	9.5
10	9.5	8.0	7.5	6.5	8.5	7.5	10.0	9.0	9.5	8.5	10.5	9.5
11	9.0	8.0	7.0	6.0	9.0	7.5	11.0	9.0	9.5	8.5	10.5	9.5
12	10.0	8.5	7.5	6.5	8.5	7.5	9.5	9.0	9.5	8.5	10.5	9.5
13	9.5	8.0	8.0	6.5	10.0	7.0	10.0	9.0	9.5	8.5	11.0	9.5
14	9.5	8.0	7.5	6.5	10.0	7.5	10.5	9.0	9.0	8.5	11.0	10.0
15	9.5	8.0	8.5	6.5	9.0	8.0	10.5	9.0	10.0	8.5	10.5	9.5
16	9.5	8.0	8.5	6.5	10.0	8.0	10.5	9.0	9.5	8.5	10.5	10.0
17	8.5	8.0	8.5	6.0	10.5	9.0	10.0	9.0	10.0	8.5	10.5	9.5
18	9.5	8.0	8.0	6.5	11.5	8.0	10.0	9.0	9.5	8.5	11.0	9.5
19	10.0	8.0	8.5	6.5	9.0	8.0	10.0	8.5	10.0	8.5	10.5	10.0
20	9.5	8.0	8.5	6.5	9.0	8.0	9.0	8.5	9.5	8.0	11.0	9.5
21	9.0	8.0	8.5	6.5	10.0	8.0	---	---	11.0	9.0	10.5	9.5
22	8.0	7.0	8.5	7.0	11.0	8.5	---	---	10.0	9.0	10.5	9.5
23	8.0	7.0	8.0	6.5	11.0	8.5	---	---	10.0	9.0	11.0	9.5
24	8.5	7.0	7.5	7.0	---	---	---	---	9.5	9.0	11.0	10.0
25	8.0	6.5	8.5	7.0	11.5	9.0	---	---	10.5	9.0	10.5	10.0
26	7.5	6.5	8.5	6.5	12.5	10.0	---	---	10.5	9.5	11.0	10.0
27	8.5	6.5	9.0	7.0	12.5	11.0	---	---	10.5	9.5	11.0	10.0
28	8.5	6.0	8.5	7.5	12.5	11.0	---	---	10.5	9.0	11.0	10.0
29	7.0	6.0	8.5	7.0	12.5	11.0	---	---	10.5	9.5	10.5	10.0
30	7.5	6.0	8.5	7.0	13.0	11.5	---	---	10.5	9.0	11.0	10.0
31	---	---	9.0	7.0	---	---	---	---	10.5	9.0	---	---
MONTH	10.0	6.0	9.0	6.0	13.0	7.0	13.0	8.5	11.0	8.0	11.0	9.0
YEAR	13.0	6.0										

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 14,79	MAR 27,80	MAY 1,80	JUL 4,80	JUL 2,80
TIME	1245	1400	1430	1430	1430
TOTAL CELLS/ML	1200	120	49	540	220
DIVERSITY: DIVISION	0.5	1.0	0.0	1.4	0.3
.CLASS	0.5	1.0	0.0	1.4	0.3
..ORDER	0.6	1.0	0.0	1.6	0.3
...FAMILY	0.8	2.0	0.0	2.5	0.3
....GENUS	0.9	2.6	0.0	2.8	0.3

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	*	0	--	-	--	-	14	3	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	28	5	--	-
....CHLAMYDOMONAS	--	-	13	11	--	-	28	5	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	20	2	--	-	--	-	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	14	3	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	51	3	--	-	--	-	14	3	--	-
....COCCONEIS	15	1	26#	22	--	-	28	5	--	-
....RHOICOSPHENIA	9	1	--	-	--	-	41	8	--	-
...CYMBELLACEAE										
....CYMBELLA	11	1	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	42	4	59#	51	39#100		150#	28	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	14	3	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	13	11	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	15	1	13	11	--	-	14	3	13	6
...NITZSCHIACEAE										
....NITZSCHIA	--	-	--	-	--	-	14	3	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	11	1	--	-	--	-	180#	33	210#	90
....SCHIZOTHRIX	1000#	87	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	13	11	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09380000 COLORADO RIVER AT LEES FERRY, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	AUG 6,80	SEP 4,80	SEP 4,80	SEP 4,80
TIME	1300	1330	1535	1300
TOTAL CELLS/ML	1500	77	560	490
DIVERSITY: DIVISION	1.0	1.8	0.9	0.4
.CLASS	1.0	1.8	0.9	0.4
..ORDER	1.2	1.8	0.9	0.5
...FAMILY	1.2	2.6	0.9	0.5
....GENUS	1.3	2.6	0.9	0.5

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...DICTYOSPHAERIACEAE								
....ANKISTRODESMUS	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	51	4	--	-	--	-	--	-
....SCENEDESMUS	100	6	--	-	--	-	26	5
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	13#	17	--	-	13	1
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	26	2	--	-	--	-	13	1
....MELOSIRA	--	-	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	13	1
....COCCONEIS	--	-	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	130	10	13#	17	130#	36	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	13	1	13#	17	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	--	-	13#	17	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	13#	17	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	13	1	13#	17	--	-	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	1000#	75	--	-	230#	64	430#	94
....SCHIZOTHRIX	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09382000 PARIA RIVER AT LEES FERRY, AZ

LOCATION.--Lat 36°52'20", long 111°35'38", in NW¼NE¼ sec.13, T.40 N., R.7 E., Coconino County, Hydrologic Unit 14070007, on left bank 0.6 mi (1.0 km) northwest of Lees Ferry, and 1.1 mi (1.8 km) upstream from mouth.

DRAINAGE AREA.--1,410 mi^2 (3,652 km^2).

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1925: 1958(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,123.40 ft (952.012 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 5, 1925, nonrecording gage at site 2,000 ft (610 m) upstream at different datum. Oct. 13, 1925, to Sept. 11, 1929, nonrecording gage at present site and datum.

REMARKS.--Records good. Diversions above station for irrigation of about 3,300 acres (13.4 km^2).

AVERAGE DISCHARGE.--57 years, 30.0 ft^3/s (0.850 m^3/s), 21,740 acre-ft/yr (26.8 hm^3/yr); median of yearly mean discharges, 26 ft^3/s (0.74 m^3/s), 18,800 acre-ft/yr (23 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s (456 m^3/s) Oct. 5, 1925, gage height, 16.3 ft (4.97 m), from flood mark, from rating curve extended above 2,000 ft^3/s (57 m^3/s) on basis of float-area measurement of peak flow; maximum gage height, 16.65 ft (5.075 m) Sept. 9, 1980; minimum daily discharge, 1 ft^3/s (0.03 m^3/s) in most years prior to 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from slope-area measurement of peak flow) and peak discharges above base of 1,400 ft^3/s (39.6 m^3/s):

		Discharge		Gage height				Discharge		Gage height	
Date	Time	(ft^3/s)	(m^3/s)	(ft)	(m)	Date	Time	(ft^3/s)	(m^3/s)	(ft)	(m)
Feb. 20	0530	5,020	142	13.92	4.243	Sept. 9	0500	*8,520	241	16.65	5.075
Feb. 22	0700	1,460	41.3	9.70	2.957	Sept. 10	1130	7,320	207	15.82	4.822

Minimum daily, 4.0 ft^3/s (0.113 m^3/s) Aug. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	15	18	28	30	122	42	90	10	30	29	5.0
2	5.5	18	20	20	30	104	46	63	10	18	7.6	4.5
3	6.0	18	20	21	30	122	43	56	10	8.2	134	4.5
4	6.0	21	22	22	40	140	43	45	10	5.0	50	4.5
5	6.5	20	28	21	38	90	59	47	7.6	5.0	19	5.5
6	6.0	21	37	24	45	75	86	40	7.6	5.0	9.4	6.0
7	6.5	22	30	24	57	169	108	59	8.2	5.0	7.6	6.5
8	6.5	49	24	25	55	136	69	66	8.8	30	6.5	50
9	6.5	74	23	30	42	80	54	57	8.2	22	5.5	2600
10	6.5	50	21	59	34	72	76	46	9.4	24	5.5	2700
11	6.0	40	24	94	28	70	94	40	10	12	5.0	392
12	6.0	30	17	30	20	144	64	43	9.4	10	4.5	78
13	6.0	30	6.0	53	14	84	43	40	9.4	10	4.0	62
14	6.0	20	6.0	45	25	57	49	40	9.4	10	6.5	26
15	5.5	20	12	129	672	68	60	64	8.2	10	20	20
16	5.5	20	26	52	248	69	77	63	10	5.0	10	22
17	6.2	18	30	52	217	53	75	50	11	5.0	10	22
18	7.0	23	22	138	248	41	70	40	10	5.0	10	21
19	7.6	31	27	130	673	41	76	30	10	5.0	10	19
20	11	30	42	50	1670	45	80	20	10	5.0	10	18
21	16	20	34	20	650	52	82	20	10	5.0	10	18
22	19	17	19	20	794	90	80	20	10	5.0	10	16
23	20	20	24	20	331	136	72	20	10	5.0	10	15
24	21	26	34	20	208	165	56	20	10	5.0	134	19
25	19	21	36	20	175	159	43	10	10	5.0	93	22
26	17	22	32	20	172	90	42	10	10	5.0	56	18
27	16	21	19	20	160	57	41	10	10	15	17	18
28	16	17	16	20	152	56	41	10	10	10	11	18
29	16	19	23	77	148	47	47	10	10	10	7.0	17
30	15	18	24	209	---	47	146	10	7.6	10	5.0	17
31	14	---	25	68	---	54	---	10	---	39	5.0	---
TOTAL	316.8	771	743.0	1561	7004	2735	1964	1149	284.8	343.2	722.1	6244.5
MEAN	10.2	25.7	24.0	50.4	242	88.2	65.5	37.1	9.49	11.1	23.3	208
MAX	21	74	42	209	1670	169	146	90	11	39	134	2700
MIN	5.0	15	6.0	20	14	41	41	10	7.6	5.0	4.0	4.5
AC-FT	628	1530	1470	3100	13890	5420	3900	2280	565	681	1430	12390

CAL YR 1979 TOTAL 15846.0 MEAN 43.4 MAX 693 MIN 1.6 AC-FT 31430
WTR YR 1980 TOTAL 23838.4 MEAN 65.1 MAX 2700 MIN 4.0 AC-FT 47280

09383000 COLORADO RIVER AT COMPACT POINT, NEAR LEES FERRY, AZ

LOCATION.--Lat 36°51'05", long 111°36'21", in NE¼SE¼ sec.23, T.40 N., R.7 E., Coconino County, Hydrologic Units 14070006, 15010001, (see REMARKS), 1.0 mi (1.6 km) downstream from Paria River, 1.4 mi (2.3 km) downstream from gage on Colorado River at Lees Ferry, and 29 mi (47 km) downstream from Utah-Arizona State line.

DRAINAGE AREA.--112,000 mi^2 (290,100 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--October 1913 to current year (monthly discharge only). Prior to October 1950, published in WSP 1313.

DETERMINATION OF DISCHARGE.--There is no gage. Monthly and yearly discharge computed as the sum of flow at stations on Colorado River and Paria River at Lees Ferry.

REMARKS.--This point on the Colorado River is the dividing point between the Upper Basin and Lower Basin, as defined in the Colorado River Compact of 1922. Flow substantially regulated by Lake Powell beginning Mar. 13, 1963. (See elsewhere in this report.)

AVERAGE DISCHARGE.--49 years (water years 1914-62), 17,760 ft^3/s (503 m^3/s), 12,870,000 acre-ft/yr (15,900 hm^3/yr); 16 years (water years 1965-80), 12,290 ft^3/s (348 m^3/s), 8,904,000 acre-ft/yr (11,000 hm^3/yr).

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Mean	Runoff in acre-feet
October	10,060	618,500
November	13,500	803,500
December	10,390	638,800
CAL YR 1979	11,240	8,140,000
January	9,875	607,200
February	10,940	629,200
March	9,939	611,100
April	14,570	867,000
May	13,790	847,700
June	24,750	1,473,000
July	25,790	1,586,000
August	20,820	1,280,000
September	16,700	993,600
WTR YR 1980	15,090	10,950,000

NOTE.--Record shown is sum of flow at stations on Colorado River and Paria River at Lees Ferry.

09383400 LITTLE COLORADO RIVER AT GREER, AZ

LOCATION.--Lat 34°01'00", long 109°27'24", in NE¼SE¼ sec.11, T.7 N., R.27 E., Apache County, Hydrologic Unit 15020001, in Apache National Forest, on upstream side of right abutment of culverts on State Highway 373, at Greer, 0.1 mi (0.2 km) downstream from Filler ditch.

DRAINAGE AREA.--30.9 mi^2 (80.0 km^2).

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8,283 ft (2,524.7 m), National Geodetic Vertical Datum of 1929. Prior to Aug. 24, 1976, at datum 0.21 ft (0.064 m) higher.

REMARKS.--Records good except those for winter periods, which are fair. Filler ditch diverts about 1,700 acre-ft/yr (2.1 hm^3/yr) from river 0.1 mi (0.2 km) above station.

AVERAGE DISCHARGE.--20 years, 16.0 ft^3/s (0.453 m^3/s), 11,590 acre-ft/yr (14.3 hm^3/yr); median of yearly mean discharges, 14 ft^3/s (0.40 m^3/s), 10,100 acre-ft/yr (12 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 615 ft^3/s (17.4 m^3/s) Oct. 20, 1972, gage height, 5.65 ft (1.722 m), from rating curve extended above 150 ft^3/s (4.25 m^3/s) on basis of partially estimated culvert computation of peak flow; minimum daily, 0.10 ft^3/s (0.003 m^3/s) Sept. 24 to Oct. 9, Oct. 13-16, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 60 ft^3/s (1.7 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Apr. 22	1630	*221	6.26	3.25	0.991
Apr. 28	2000	202	5.72	3.13	0.954

Minimum daily, 2.6 ft^3/s (0.074 m^3/s) Sept. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	7.0	5.7	6.9	10	19	9.3	94	50	38	11	8.9
2	5.0	7.0	6.3	6.3	10	20	8.9	94	48	34	10	8.9
3	6.0	7.0	6.9	7.5	11	18	9.7	98	48	34	10	8.9
4	6.3	7.0	6.9	6.0	11	18	9.7	101	50	31	11	8.5
5	6.6	7.0	6.9	5.7	11	17	12	91	51	28	11	8.9
6	6.6	7.0	6.6	5.7	12	17	16	85	52	27	11	14
7	6.6	7.2	6.6	4.8	12	16	19	84	53	32	11	10
8	6.6	8.9	6.3	4.6	15	14	19	83	55	26	11	10
9	6.6	7.5	6.6	4.6	15	15	20	78	59	24	11	11
10	6.6	7.2	6.6	4.6	15	14	26	71	62	26	10	12
11	6.6	5.7	6.6	4.6	18	15	33	66	63	32	10	6.0
12	6.6	6.3	6.3	4.8	17	14	32	59	62	28	10	2.6
13	7.0	5.7	6.3	5.4	18	14	31	57	59	27	10	2.6
14	7.0	6.6	5.4	5.7	16	16	32	55	58	23	13	2.8
15	7.0	6.9	6.9	5.7	19	15	34	54	55	21	11	2.8
16	7.0	5.7	7.8	5.1	19	14	46	53	55	19	9.7	3.0
17	7.0	6.0	7.7	5.1	20	15	58	55	52	18	9.3	3.0
18	7.0	6.0	6.6	4.8	26	13	73	55	51	18	8.9	3.2
19	7.0	6.5	6.6	5.1	26	13	88	55	51	19	9.7	3.0
20	7.0	6.6	6.3	6.6	22	13	112	55	50	19	9.3	3.2
21	8.0	6.6	6.6	6.6	20	13	145	59	46	19	8.9	3.2
22	7.0	6.6	7.2	5.7	18	12	166	63	44	16	8.5	3.4
23	7.0	6.9	7.5	6.3	18	12	138	65	43	16	8.9	3.4
24	7.0	6.6	9.3	9.3	18	10	101	62	43	16	14	3.4
25	7.0	6.6	6.6	8.9	18	10	80	58	41	14	11	3.6
26	7.0	6.6	5.7	6.9	19	10	79	53	39	13	11	3.8
27	7.0	6.9	6.9	7.8	20	10	102	51	39	11	11	4.3
28	7.0	6.0	6.0	8.2	21	9.0	138	50	39	11	9.7	4.3
29	7.0	6.9	7.8	7.8	21	9.0	138	47	38	12	9.7	4.3
30	7.0	6.9	6.3	11	---	10	107	47	37	12	9.3	4.0
31	7.0	---	6.6	10	---	7.8	---	47	---	11	8.9	---
TOTAL	208.1	201.4	208.4	198.1	496	422.8	1882.6	2045	1491	675	318.8	171.0
MEAN	6.71	6.71	6.72	6.39	17.1	13.6	62.8	66.0	49.7	21.8	10.3	5.70
MAX	8.0	8.9	9.3	11	26	20	166	101	63	38	14	14
MIN	4.0	5.7	5.4	4.6	10	7.8	8.9	47	37	11	8.5	2.6
AC-FT	413	399	413	393	984	839	3730	4060	2960	1340	632	339

CAL YR 1979 TOTAL 11677.1 MEAN 32.0 MAX 183 MIN 4.0 AC-FT 23160
WTR YR 1980 TOTAL 8318.2 MEAN 22.7 MAX 166 MIN 2.6 AC-FT 16500

09383500 NUTRIOSO CREEK ABOVE NELSON RESERVOIR, NEAR SPRINGERVILLE, AZ

LOCATION.--Lat 34°01'49", long 109°11'09", in NE¼SW¼ sec.4, T.7 N., R.30 E., Apache County, Hydrologic Unit 15020001, in Apache National Forest, on right bank 2.4 mi (3.9 km) upstream from dam on Nelson Reservoir and 9 mi (14 km) southeast of Springerville.

DRAINAGE AREA.--83.4 mi^2 (216.0 km^2).

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Concrete control since June 21, 1977. Datum of gage is 7,421.7 ft (2,262.13 m).

REMARKS.--Records poor.

AVERAGE DISCHARGE.--13 years, 6.51 ft^3/s (0.184 m^3/s), 4,720 acre-ft/yr (5.82 hm^3/yr); median of yearly mean discharges, 4.0 ft^3/s (0.11 m^3/s), 2,900 acre-ft/yr (3.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 462 ft^3/s (13.1 m^3/s) Dec. 18, 1978, gage height, 10.84 ft (3.304 m), from rating curve extended above 130 ft^3/s (3.7 m^3/s) on basis of slope-area measurement of peak flow; no flow at times during most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 40 ft^3/s (1.1 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	1830	66	1.87	8.18	2.493	Apr. 21	2230	*174	4.93	8.99	2.740
Feb. 20	0530	45	1.27	7.96	2.426						

Minimum omitted due to lack of effective control for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.60	.10	.20	.60	13	12	56	3.0	.20	.66	.48
2	.60	.60	.10	.20	.60	13	13	49	3.0	.20	.72	.48
3	.60	.50	.10	.20	.60	14	13	46	3.0	.10	.54	.43
4	.60	.60	.20	.20	.60	14	13	47	3.0	.10	.60	.43
5	.60	.60	.20	.20	.60	13	14	46	2.6	.10	1.0	.54
6	.40	.70	.20	.20	.60	13	18	45	2.2	.10	.89	.89
7	.20	.70	.10	.20	.60	13	23	40	2.1	.20	.75	.72
8	.10	1.1	.30	.20	.60	13	26	37	2.2	.20	.78	.60
9	.10	1.7	.30	.20	.60	12	29	32	2.2	.20	.72	.60
10	.10	1.8	.30	.20	.60	13	32	23	1.8	.20	.72	1.0
11	.10	1.8	.20	.30	.60	13	42	19	1.8	.20	.66	1.1
12	.20	1.3	.20	.30	.60	13	35	14	1.6	.40	.54	.78
13	.20	.70	.20	.30	.60	12	29	12	1.1	.70	.66	1.1
14	.20	.50	.20	.30	.60	12	24	11	.90	.40	.78	.54
15	.20	.40	.10	.40	34	13	29	11	.80	.30	1.0	.66
16	.40	.50	.10	.50	24	14	42	11	.80	.30	.78	.78
17	.60	.60	.10	.60	13	14	55	7.8	.70	.20	.54	.66
18	.80	.70	.10	.60	13	13	63	7.4	.60	.20	.60	.66
19	1.1	.70	.20	.60	13	14	77	9.8	.50	.50	.66	.54
20	.70	.60	.10	.60	35	13	79	6.4	.60	.50	.60	.60
21	.90	.40	.20	.80	19	13	103	4.6	.70	.50	.60	.43
22	1.2	.20	.20	.60	15	14	129	4.0	.60	.50	.48	.37
23	1.2	.20	.20	.60	13	13	105	4.0	.50	.50	.37	.48
24	1.6	.20	.30	.60	12	13	70	4.0	.30	.50	9.2	.60
25	1.7	.20	.20	.60	13	12	58	4.0	.30	.50	5.8	.54
26	1.3	.10	.20	.60	13	13	58	4.0	.40	.40	3.8	.54
27	1.3	.10	.30	.60	12	12	69	4.0	.30	.40	1.9	.60
28	1.1	.20	.20	.60	12	12	89	4.0	.40	.40	1.3	.66
29	1.0	.20	.20	.60	13	12	90	4.0	.30	.40	.89	.66
30	.90	.20	.20	.60	---	12	67	4.0	.20	.50	.78	.60
31	.70	---	.20	.50	---	13	---	4.0	---	.60	.60	---
TOTAL	21.30	18.70	5.80	13.20	262.40	401	1506	575.0	58.50	10.50	39.92	19.07
MEAN	.69	.62	.19	.43	9.05	12.9	50.2	18.5	1.28	.34	1.29	.64
MAX	1.7	1.8	.30	.80	35	14	129	56	3.0	.70	9.2	1.1
MIN	.10	.10	.10	.20	.60	12	12	4.0	.20	.10	.37	.37
AC-FT	42	37	12	26	520	795	2990	1140	76	21	79	38

CAL YR 1979	TOTAL	6071.54	MEAN	16.6	MAX 172	MIN .10	AC-FT	12040
WTR YR 1980	TOTAL	2911.39	MEAN	7.95	MAX 129	MIN .10	AC-FT	5770

NOTE.--No gage-height record Nov. 30 to Jan. 17.

09383550 NUTRIOSO CREEK BELOW NELSON RESERVOIR, NEAR SPRINGERVILLE, AZ

LOCATION.--Lat 34°03'36", long 109°11'40", in SE¼NE¼ sec.29, T.8 N., R.30 E., Apache County, Hydrologic Unit 15020001, in Apache National Forest, on right bank about 200 ft (60 m) downstream from dam on Nelson Reservoir and 7 mi (11 km) southeast of Springerville.

DRAINAGE AREA.--86.8 mi^2 (224.8 km^2).

PERIOD OF RECORD.--July 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7,364.8 ft (2,244.79 m).

REMARKS.--Records good. Flow regulated by Nelson Reservoir, 200 ft (60 m) upstream, minor stock ponds, and a small lake in Nutrioso.

AVERAGE DISCHARGE.--13 years, 6.27 ft^3/s (0.178 m^3/s), 4,540 acre-ft/yr (5.60 hm^3/yr); median of yearly mean discharges, 3.5 ft^3/s (0.10 m^3/s), 2,500 acre-ft/yr (3.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 465 ft^3/s (13.2 m^3/s) Apr. 29, 1973, gage height, 7.03 ft (2.143 m), from rating curve extended above 150 ft^3/s (4.2 m^3/s) on basis of slope-area measurement at gage height 7.02 ft (2.140 m); no flow Dec. 10, 1967, Jan. 3, 1968, Sept. 11-13, 17, 18, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 128 ft^3/s (3.62 m^3/s) Apr. 22, gage height, 6.34 ft (1.932 m); minimum daily, 0.12 ft^3/s (0.003 m^3/s) Dec. 30, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.14	.13	.13	.14	12	10	51	3.8	.64	.16	.13
2	.13	.14	.13	.13	.14	13	9.6	47	3.9	2.0	.14	.13
3	.14	.14	.13	.13	.14	14	9.5	44	3.7	6.9	.15	.13
4	.14	.14	.13	.13	.14	14	10	42	3.3	6.7	.13	.13
5	.14	.14	.13	.13	.14	12	11	41	2.9	2.4	.14	.13
6	.14	.14	.13	.13	.14	12	14	42	2.6	.43	.13	.13
7	.13	.15	.13	.13	.14	11	18	39	1.9	.42	.13	.13
8	.14	.16	.13	.13	.14	11	20	35	1.9	.42	.13	.13
9	.14	.16	.13	.13	.14	10	23	33	1.9	.39	.13	.13
10	.14	.14	.13	.13	.14	11	25	26	1.7	.40	.13	.13
11	.14	.15	.13	.13	.14	12	31	23	1.3	.41	.13	.13
12	.14	.16	.13	.13	.14	12	32	20	1.1	.38	.13	.13
13	.14	.16	.13	.13	.14	11	27	18	1.2	.39	.13	.13
14	.14	.15	.14	.13	.14	10	23	17	.95	.36	.13	.13
15	.13	.14	.13	.13	.14	11	23	16	.75	.36	.13	.13
16	.14	.14	.13	.13	20	12	29	18	.82	.33	.13	.13
17	.14	.14	.14	.13	12	12	39	14	.81	.33	.13	.13
18	.14	.14	.13	.14	12	12	47	14	.81	.33	.13	.13
19	.13	.14	.13	.14	12	12	55	16	2.4	.30	.13	.13
20	.14	.14	.13	.14	32	12	61	14	5.5	.30	.13	.14
21	.14	.14	.13	.14	30	13	83	11	5.6	.27	.13	.14
22	.14	.14	.14	.14	20	11	102	8.8	1.9	.27	.13	.14
23	.14	.13	.13	.14	15	11	89	7.6	.59	.25	.13	.14
24	.14	.13	.13	.14	12	11	60	8.3	.59	3.2	.13	.14
25	.14	.13	.13	.14	11	9.9	49	5.9	.59	4.7	.13	.14
26	.14	.13	.13	.14	9.8	9.1	45	6.9	.59	3.3	.13	.14
27	.14	.13	.14	.14	10	10	52	7.1	.61	.17	.13	.14
28	.13	.13	.13	.14	11	11	60	7.1	.64	.17	.13	.13
29	.13	.13	.13	.14	11	9.6	73	6.3	.59	.16	.13	.13
30	.14	.13	.12	.14	---	9.4	60	6.5	.60	.14	.13	.14
31	.14	---	.12	.14	---	9.7	---	5.0	---	.15	.13	---
TOTAL	4.27	4.23	4.05	4.17	219.90	350.7	1190.1	650.5	55.54	36.97	4.10	3.99
MEAN	.14	.14	.13	.13	7.58	11.3	39.7	21.0	1.85	1.19	.13	.13
MAX	.14	.16	.14	.14	32	14	102	51	5.6	6.9	.16	.14
MIN	.13	.13	.12	.13	.14	9.1	9.5	5.0	.59	.14	.13	.13
AC-FT	8.5	8.4	8.0	8.3	436	696	2360	1290	110	73	8.1	7.9

CAL YR 1979 TOTAL 6733.89 MEAN 18.4 MAX 200 MIN .10 AC-FT 13360
WTR YR 1980 TOTAL 2528.52 MEAN 6.91 MAX 102 MIN .12 AC-FT 5020

09384000 LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, AZ

LOCATION.--Lat 34°18'52", long 109°21'42", in SW¼SE¼ sec.27, T.11 N., R.28 E., Apache County, Hydrologic Unit 15020001, on left bank 0.75 mi (1.2 km) downstream from Coyote Creek, 6 mi (9.6 km) upstream from Lyman Dam, and 15 mi (24.1 km) south of St. Johns. Prior to Dec. 7, 1976, at site 0.4 mi (0.6 km) downstream.

DRAINAGE AREA.--747 mi^2 (1,935 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1940 to current year. Prior to October 1975 published as "above Lyman Reservoir."

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 6,010 ft (1,832 m), from topographic map. Prior to December 7, 1976, water-stage recorder at site 0.4 mi (0.6 km) downstream at datum approximately 20 ft (6.1 m) lower, reactivated March 21, 1980. See WSP 1313 for history of changes prior to 1950.

REMARKS.--Records fair. Flow regulated by many small reservoirs—combined capacity, about 15,500 acre-ft (19.1 hm^3). Diversions for irrigation of about 6,700 acres (27.1 km^2) above station.

AVERAGE DISCHARGE.--40 years, 22.3 ft^3/s (0.632 m^3/s), 16,160 acre-ft/yr (19.9 hm^3/yr); median of yearly mean discharges, 15 ft^3/s (0.42 m^3/s), 10,900 acre-ft/yr (13 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft^3/s (453 m^3/s) July 25, 1940, gage height, 17.1 ft (5.21 m), datum then in use, from floodmarks, by slope-area measurement of peak flow and reservoir inflow studies; maximum gage height, 18.6 ft (5.67 m), Sept. 12, 1975, at previous site (from graph recorded to 18.4 ft or 5.61 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharge above base of 400 ft^3/s (11 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Apr. 23	0830	*840	23.8	5.05	1.539
Aug. 3	0600	500	14.2	a11.40	3.475

Minimum daily, 1.5 ft^3/s (0.042 m^3/s) Oct. 27.
a Gage height from lower site.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.8	6.0	7.0	8.1	38	43	400	7.0	5.4	7.3	9.0
2	1.9	1.8	7.0	7.0	7.4	40	43	350	8.0	5.4	13	8.0
3	1.7	2.2	7.0	6.0	7.0	40	35	300	7.0	5.4	56	9.0
4	1.8	2.2	7.0	8.0	7.4	38	24	300	6.0	4.0	16	10
5	1.8	2.2	8.0	6.0	11	36	24	280	5.0	4.0	26	9.0
6	2.1	2.1	8.0	6.0	12	34	24	260	6.0	4.0	24	10
7	2.1	1.9	8.0	6.0	14	34	29	240	6.0	7.3	16	10
8	2.2	2.1	7.0	5.0	17	36	35	200	5.0	7.3	16	28
9	2.2	2.7	7.0	5.0	15	34	43	180	6.0	5.4	16	56
10	2.2	2.9	7.0	5.0	13	35	51	160	6.0	5.4	12	19
11	2.3	2.9	7.0	5.0	15	39	70	130	5.0	7.3	9.6	12
12	2.2	3.6	7.0	5.0	19	42	80	115	5.0	7.3	19	10
13	2.0	4.0	7.0	5.0	21	41	70	100	6.0	9.6	16	8.0
14	1.9	4.4	7.0	5.0	23	39	60	90	5.0	12	16	9.0
15	2.0	4.6	6.0	6.0	32	38	60	90	6.0	12	16	8.0
16	2.2	4.4	7.0	6.0	45	39	70	69	5.0	9.6	12	10
17	2.0	4.2	8.0	6.0	55	41	115	60	5.0	7.3	9.6	9.0
18	1.8	4.1	9.0	7.0	42	42	200	57	6.0	5.4	9.6	9.0
19	1.9	4.0	9.0	7.0	44	41	278	59	6.0	4.0	6.0	8.0
20	1.9	4.1	6.3	8.0	58	42	358	54	7.0	4.0	5.0	9.0
21	1.8	3.7	7.2	9.0	70	41	443	45	6.0	4.0	5.4	10
22	1.7	4.0	9.0	11	57	43	600	36	6.0	5.4	5.4	11
23	1.7	5.0	7.7	11	51	35	710	30	5.0	5.4	5.4	10
24	1.7	6.0	5.8	7.9	45	35	541	22	5.4	7.3	22	10
25	1.7	6.0	6.0	7.2	42	43	414	20	5.4	7.3	69	11
26	1.6	7.5	6.0	8.5	39	35	350	16	5.4	5.4	34	10
27	1.5	7.0	6.0	7.8	36	43	350	11	5.4	5.4	16	9.0
28	1.6	7.0	7.0	8.5	36	43	426	9.0	4.0	5.4	16	10
29	1.8	7.0	6.0	8.3	36	43	537	8.0	4.0	5.4	16	11
30	2.0	7.0	8.0	8.4	---	43	520	7.0	5.4	18	12	10
31	2.0	---	6.0	9.8	---	43	---	6.0	---	9.6	12	---
TOTAL	59.2	122.4	220.0	218.4	877.9	1216	6603	3704.0	170.0	210.7	534.3	362.0
MEAN	1.91	4.08	7.10	7.05	30.3	39.2	220	119	5.67	6.80	17.2	12.1
MAX	2.3	7.5	9.0	11	70	43	710	400	8.0	18	69	56
MIN	1.5	1.8	5.8	5.0	7.0	34	24	6.0	4.0	4.0	5.0	8.0
AC-FT	117	243	436	433	1740	2410	13100	7350	337	418	1060	718

CAL YR 1979 TOTAL 24197.6 MEAN 66.3 MAX 900 MIN 1.5 AC-FT 48000
WTR YR 1980 TOTAL 14297.9 MEAN 39.1 MAX 710 MIN 1.5 AC-FT 28360

NOTE.--No gage-height record Nov. 20 to Dec. 19, Dec. 25 to Jan. 22.

09384000 LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT												
11...	1300	2.6	667	8.3	19.0	8.5	9.5	15	33	260	0	57
NOV												
26...	1600	7.0	653	8.6	7.5	18	9.6	--	K15	220	0	51
DEC												
19...	1200	12	515	8.5	.5	210	12.4	--	--	210	0	48
JAN												
22...	1145	10	535	8.6	4.0	6.8	11.0	--	K1	200	0	46
FEB												
12...	1200	40	328	8.0	1.0	140	11.2	38	167	120	0	27
MAR												
27...	1330	41	320	8.1	11.0	23	9.6	21	K4	110	0	27
APR												
22...	1500	575	155	8.0	10.0	520	9.4	120	2500	56	0	14
MAY												
22...	1030	20	295	8.2	16.0	30	--	20	39	120	0	30
JUN												
24...	1200	4.9	500	8.4	27.0	1.1	9.1	28	K10	190	0	44
JUL												
30...	1030	59	260	8.2	21.0	400	6.7	120	K10000	97	0	24
AUG												
20...	1100	5.5	480	--	21.0	50	8.1	16	96	200	0	46
SEP												
23...	1100	10	480	8.2	12.0	110	8.7	33	K220	190	0	43

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT												
11...	29	52	1.4	4.1	320	30	19	.5	22	385	406	.52
NOV												
26...	23	42	1.2	2.5	270	23	12	.3	21	345	338	.47
DEC												
19...	22	41	1.2	2.1	260	19	14	.3	19	336	322	.46
JAN												
22...	21	48	1.5	2.7	240	19	15	.3	20	312	316	.42
FEB												
12...	12	27	1.1	1.9	140	16	12	.2	22	191	203	.26
MAR												
27...	10	18	.8	1.9	120	12	6.0	.2	21	171	169	.23
APR												
22...	5.1	8.8	.5	1.4	56	8.6	4.3	.1	18	118	94	.16
MAY												
22...	11	20	.8	1.8	130	13	7.6	.2	22	188	184	.26
JUN												
24...	20	36	1.1	3.2	250	18	12	.4	21	301	305	.41
JUL												
30...	9.0	19	.8	2.6	110	14	5.8	.3	13	167	155	.23
AUG												
20...	20	35	1.1	3.0	250	20	11	.3	23	318	309	.43
SEP												
23...	20	34	1.1	2.8	220	18	13	.4	23	292	287	.40

K Based on non-ideal colony count.

09384000 LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
OCT												
11...	8	.00	--	--	--	.060	.25	.05	.15	2	400	140
NOV												
26...	--	.13	.46	.59	2.6	.180	.55	.11	.34	3	400	90
DEC												
19...	--	.05	1.5	1.5	6.8	.450	1.4	.28	.86	3	600	100
JAN												
22...	15	.00	--	--	--	.340	1.0	.24	.74	3	100	100
FEB												
12...	426	.07	--	--	--	7.700	24	.21	.64	2	100	60
MAR												
27...	44	.03	--	--	--	--	--	.01	.03	2	<100	70
APR												
22...	1820	.06	3.2	4.0	18	2.000	6.1	.05	.15	6	700	80
MAY												
22...	160	.02	.69	.71	3.1	.050	.15	.09	.28	2	100	40
JUN												
24...	6	.01	1.3	1.3	5.8	.110	.34	.09	.28	3	100	90
JUL												
30...	414	.21	4.2	4.5	20	1.100	3.4	.05	.15	4	400	60
AUG												
20...	112	.00	1.0	1.0	4.4	.120	.37	.07	.21	3	100	100
SEP												
23...	168	.00	.60	.60	2.7	.220	.67	.12	.37	3	100	50

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)
OCT												
11...	90	1	0	2	580	<10	0	60	30	.1	0	0
NOV												
26...	70	2	16	4	920	20	5	100	50	.8	0	0
DEC												
19...	70	0	16	14	6900	<10	10	500	20	.1	0	0
JAN												
22...	70	0	0	8	470	60	2	70	60	.0	0	0
FEB												
12...	40	1	10	10	7800	50	6	540	40	.7	0	0
MAR												
27...	90	1	10	6	1200	30	5	80	10	.0	0	0
APR												
22...	40	1	30	34	32000	30	21	1300	<10	.0	1	1
MAY												
22...	60	1	0	7	1700	20	3	90	10	.0	0	0
JUN												
24...	80	0	0	8	420	<10	4	60	20	.0	0	0
JUL												
30...	50	0	20	37	29000	50	20	1900	10	.1	1	0
AUG												
20...	120	1	0	4	750	30	5	80	30	.1	0	0
SEP												
23...	50	1	0	12	2400	30	10	160	30	.1	0	0

< Actual value is known to be less than value shown.

09384000 LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT												
11...	<10	--	4.0	.00	2	--	--	--	--	--	44	.32
NOV												
26...	40	--	9.1	--	1	--	--	--	--	--	32	.61
DEC												
19...	40	--	11	.00	4	--	--	--	--	--	420	14
JAN												
22...	10	--	--	.00	+9	--	--	--	--	--	42	1.2
FEB												
12...	20	--	11	.00	0	--	--	--	--	--	448	49
MAR												
27...	20	7	--	.00	5	--	--	--	--	--	122	14
APR												
22...	120	--	37	.00	2	--	--	--	--	--	--	--
MAY												
22...	20	--	12	.00	4	--	--	--	--	--	108	5.8
JUN												
24...	20	--	10	.00	3	.394	.394	--	.000	.000	43	.57
JUL												
30...	100	--	64	.00	2	--	--	--	--	--	--	--
AUG												
20...	20	--	9.5	.00	+19	--	--	--	--	--	1460	22
SEP												
23...	40	--	8.2	.00	3	4.65	5.51	244	3.53	.490	157	4.3

+ Value verified.
< Actual value is known to be less than value shown.

09384000 LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, SEPTEMBER 1979 TO AUGUST 1980

DATE	JUN 28,80		JUL 30,80		JUL 30,80		JUL 30,80	
TIME	1200		1142		1145		1150	
TOTAL CELLS/ML	540		13000		29000		11000	
DIVERSITY: DIVISION	1.5		1.4		1.0		1.4	
.CLASS	1.5		1.5		1.0		1.4	
..ORDER	1.9		1.5		1.2		1.5	
...FAMILY	2.7		2.6		1.5		2.7	
....GENUS	2.7		3.1		1.6		2.9	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	1400	11	430	1	140	1
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	*	0	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	64#	19	--	-	--	-	430	4
....TETRASTRUM	--	-	--	-	570	2	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	*	0	--	-
....CHLAMYDOMONAS	26	8	--	-	290	1	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	13	4	--	-	--	-	140	1
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	290	2	--	-	140	1
....COCCONEIS	--	-	--	-	--	-	140	1
....RHOICOSPHENIA	--	-	--	-	--	-	140	1
...CYMBELLACEAE								
....CYMBELLA	26	8	140	1	*	0	140	1
....EPITHEMIA	--	-	1300	10	720	2	290	3
...DIATOMACEAE								
....DIATOMA	--	-	--	-	*	0	1400	13
...FRAGILARIACEAE								
....FRAGILARIA	--	-	--	-	290	1	570	5
....SYNEDRA	--	-	140	1	--	-	140	1
...GOMPHONEMATACEAE								
....GOMPHONEMA	13	4	140	1	--	-	--	-
...NAVICULACEAE								
....CALONEIS	--	-	--	-	--	-	140	1
....NAVICULA	26	8	1600	12	2200	7	1100	10
...NITZSCHIACEAE								
....NITZSCHIA	90#	27	1400	11	1400	5	1400	13
.CHRYSOPHYCEAE								
..CHRYSOMONADALES								
...CHROMULINACEAE								
....CHRYSOCOCCUS	--	-	140	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	77#	23	--	-	570	2	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	2000#	16	22000#	76	4600#	41
....PHORMIDIUM	--	-	2900#	22	--	-	--	-
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	1400	11	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	140	1
....TRACHELOMONAS	--	-	--	-	*	0	140	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09384000 LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, SEPTEMBER 1979 TO AUGUST 1980

DATE	AUG 20,80		AUG 20,80		AUG 20,80	
TIME	1100		1105		1110	
TOTAL CELLS/ML	410		690		620	
DIVERSITY: DIVISION	0.7		0.4		0.9	
.CLASS	0.7		0.4		0.8	
..ORDER	1.2		1.0		1.3	
...FAMILY	1.6		2.2		1.9	
....GENUS	1.6		2.2		1.9	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	--	-	--	-	100#	17
....TETRASTRUM	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	52	13	64	9	39	6
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	52	13	100	15	39	6
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	26	4	--	-
....EPITHEMIA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	100	15	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	--	-
....SYNEDRA	--	-	13	2	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	13	2
...NAVICULACEAE						
....CALONEIS	--	-	--	-	--	-
....NAVICULA	26	6	64	9	90	15
...NITZSCHIACEAE						
....NITZSCHIA	270#	66	320#	46	330#	54
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...CHROMULINACEAE						
....CHRYSOCOCCUS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	--	-	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	--	-
....PHORMIDIUM	--	-	--	-	--	-
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	13	3	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09385000 LYMAN CANAL BELOW LYMAN LAKE, NEAR ST. JOHNS, AZ

LOCATION.--Lat 34°22'05", long 109°22'55", in SW¼NE¼ sec.9, T.11 N., R.28 E., Apache County, Hydrologic Unit 1502002, on right bank 45 ft (14 m) downstream from outlet tunnel in Lyman Dam and 9.5 mi (15.3 km) south of St. Johns.

PERIOD OF RECORD.--June 1950 to June 1954, April 1955 to September 1980 (discontinued). Prior to October 1975 published as "below Lyman Reservoir, near St. Johns."

GAGE.--Water-stage recorder. Datum of gage is 5,943.4 ft (1,811.55 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Canal diverts water from Lyman Lake for irrigation of about 1,500 acres (6.07 km^2) in vicinity of St. Johns. No diversion between reservoir outlet and station. A feeder ditch 9 mi (14 km) downstream diverts up to 400 acre-ft/yr (0.493 hm^3/yr) from Lyman Canal to Little Reservoir.

AVERAGE DISCHARGE.--28 years (water years 1951-53, 1956-80), 11.7 ft^3/s (0.331 m^3/s), 8,480 acre-ft/yr (10.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 74 ft^3/s (2.10 m^3/s) July 3-5, Aug. 8, 9, 1952; no flow for long periods in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	9.0	35	23	36	34	37
2	.00	.00	.00	.00	.00	.00	9.1	35	23	36	34	37
3	.00	.00	.00	.00	.00	.00	9.0	35	23	36	35	37
4	.00	.00	.00	.00	.00	.00	9.7	35	23	36	35	37
5	.00	.00	.00	.00	.00	.00	9.9	35	23	36	35	37
6	.00	.00	.00	.00	.00	.00	9.7	35	23	37	35	37
7	.00	.00	.00	.00	.00	.00	9.6	35	23	36	35	37
8	.00	.00	.00	.00	.00	.00	9.6	35	23	36	35	37
9	.00	.00	.00	.00	.00	.00	9.4	35	23	36	35	37
10	.00	.00	.00	.00	.00	.00	9.3	35	30	36	35	30
11	.00	.00	.00	.00	.00	.00	9.1	35	35	36	35	25
12	.00	.00	.00	.00	.00	.00	9.1	35	35	36	35	25
13	.00	.00	.00	.00	.00	.00	9.0	35	35	35	35	25
14	.00	.00	.00	.00	.00	.00	8.8	35	35	35	15	25
15	.00	.00	.00	.00	.00	.00	8.7	35	35	35	.00	9.7
16	.00	.00	.00	.00	.00	.00	8.7	35	36	35	.00	.00
17	.00	.00	.00	.00	.00	.00	8.5	35	36	35	.00	.00
18	.00	.00	.00	.00	.00	.00	19	35	38	35	27	.00
19	.00	.00	.00	.00	.00	.00	24	35	39	35	37	.00
20	.00	.00	.00	.00	.00	.00	24	35	38	35	36	.00
21	.00	.00	.00	.00	.00	.00	24	35	37	35	37	.00
22	.00	.00	.00	.00	.00	4.6	30	35	37	35	37	.00
23	.00	.00	.00	.00	.00	6.8	35	35	37	35	36	.00
24	.00	.00	.00	.00	.00	7.0	35	35	37	35	36	.00
25	.00	.00	.00	.00	.00	8.5	35	35	37	35	36	.00
26	.00	.00	.00	.00	.00	9.9	35	35	36	35	36	.00
27	.00	.00	.00	.00	.00	10	35	35	36	35	36	.00
28	.00	.00	.00	.00	.00	10	35	26	36	34	36	.00
29	.00	.00	.00	.00	.00	10	35	22	36	34	36	.00
30	.00	.00	.00	.00	---	10	35	22	36	34	36	.00
31	.00	---	.00	.00	---	10	---	23	---	34	37	---
TOTAL	.00	.00	.00	.00	.00	86.80	557.2	1058	964	1094	967.00	472.70
MEAN	.000	.000	.000	.000	.000	2.80	18.6	33.5	32.1	35.3	31.2	15.8
MAX	.00	.00	.00	.00	.00	10	35	35	39	37	37	37
MIN	.00	.00	.00	.00	.00	.00	8.5	22	23	34	.00	.00
AC-FT	.00	.00	.00	.00	.00	172	1110	2060	1910	2170	1920	938

CAL YR 1979 TOTAL 5849.40 MEAN 16.0 MAX 45 MIN .00 AC-FT 11600
WTR YR 1980 TOTAL 5179.70 MEAN 14.2 MAX 39 MIN .00 AC-FT 10270

09385500 LITTLE COLORADO RIVER BELOW LYMAN LAKE, NEAR ST. JOHNS, AZ

LOCATION.--Lat 34°22'05", long 109°22'56", in SW¼NE¼ sec.9, T.11 N., R.28 E., Apache County, Hydrologic Unit 150220002, on right bank 65 ft (20 m) downstream from outlet tunnel in Lyman Dam, and 9.5 mi (15.3 km) south of St. Johns.

DRAINAGE AREA.--790 mi^2 (2,046 km^2).

PERIOD OF RECORD.--April 1941 to June 1954, April 1955 to September 1980 (discontinued). Prior to October 1975 published as "below Lyman Reservoir, near St. Johns."

GAGE.--Water-stage recorder and concrete control for determination of quantity of water released to river channel. Datum of gage is 5,925.35 ft (1,806.047 m) National Geodetic Vertical Datum of 1929. Periodic observations of lake elevation are made to determine flow in spillway channel 0.4 mi (0.6 km) north, in SW¼ sec.4, T.11 N., R.28 E.

REMARKS.--Records fair. Records show all water spilled and released from Lyman Lake to the river channel, but do not include flow diverted to Lyman Canal. (See sta 09385000.) Since 1929, spill has occurred only during periods: Apr. 8 to about May 6, 1932, Apr. 30 to May 13, 1941, Apr. 5-23, 1966, Apr. 29 to May 26, 1973, Apr. 23 to May 6 and May 8 to about June 12, 1979, and Apr. 22 to May 14, 1980. Except for periods of flow over spillway, flow is completely regulated by many reservoirs—combined capacity, 46,900 acre-ft (57.8 hm^3)—the largest of which is Lyman Lake. Diversions above station for irrigation of about 8,200 acres (33.2 km^2), including 1,500 acres (6.07 km^2) served by Lyman Canal. Flow past this station, supplemented by spring inflow downstream and feeder ditch diversions from Lyman Canal, used to irrigate an additional 2,000 acres (8.09 km^2) in vicinity of St. Johns.

AVERAGE DISCHARGE.--37 years (water years 1942-53, 1956-80), 3.98 ft^3/s (0.113 m^3/s), 2,880 acre-ft/yr (3.55 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 603 ft^3/s (17.1 m^3/s) May 8, 1941 (including 546 ft^3/s or 15.5 m^3/s of spilled water); no flow at times prior to 1960.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 329 ft^3/s (9.32 m^3/s) Apr. 30 (including 327 ft^3/s or 9.26 m^3/s spilled); minimum daily, 0.20 ft^3/s (0.006 m^3/s) Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.40	.40	.46	.29	.29	1.7	310	2.0	1.5	1.7	1.1
2	.50	.40	.40	.46	.29	.29	1.7	278	2.0	1.5	1.7	1.1
3	.50	.40	.40	.46	.29	.31	1.7	257	2.0	1.5	1.6	1.1
4	.50	.40	.40	.46	.29	.34	1.7	219	2.0	1.5	1.5	1.2
5	.50	.40	.40	.46	.29	.34	1.6	173	2.0	1.4	1.5	1.2
6	.50	.40	.40	.46	.29	.34	1.5	173	2.0	1.4	1.5	1.2
7	.50	.40	.30	.46	.29	.34	1.5	186	2.0	1.5	1.5	1.2
8	.50	.40	.30	.40	.24	.34	1.5	152	1.8	1.5	1.6	1.2
9	.50	.40	.30	.40	.24	.34	1.5	131	1.8	1.5	1.7	1.2
10	.50	.40	.30	.40	.24	3.5	1.5	103	2.0	1.5	1.7	1.2
11	.50	.40	.30	.40	.24	7.2	1.5	76	2.0	1.5	1.7	1.2
12	.50	.40	.30	.40	.24	7.2	1.5	46	2.2	1.5	1.7	1.2
13	.50	.40	.30	.40	.24	51	1.7	31	2.0	1.5	1.8	1.2
14	.50	.40	.30	.40	.24	109	1.7	3.1	2.0	1.5	1.5	1.2
15	.50	.40	.30	.40	.29	109	1.7	1.1	2.0	1.5	1.2	.73
16	.50	.40	.30	.40	.29	109	1.7	1.1	2.0	1.5	1.1	.34
17	.50	.40	.30	.32	.29	109	1.7	1.1	2.0	1.5	1.1	.29
18	.50	.40	.34	.24	.29	109	1.7	1.1	2.0	1.5	1.1	.24
19	.50	.40	.34	.24	.29	110	1.7	1.1	2.0	1.7	1.1	.24
20	.40	.40	.34	.24	.29	109	1.7	1.1	2.0	1.7	1.1	.24
21	.40	.40	.40	.24	.29	109	1.8	1.0	2.0	1.5	1.1	.24
22	.40	.40	.40	.24	.29	85	6.8	1.0	2.0	1.5	.88	.20
23	.40	.40	.40	.24	.29	71	77	.94	2.0	1.5	1.0	.24
24	.40	.40	.40	.24	.29	68	186	1.0	2.0	1.5	1.0	.24
25	.40	.40	.40	.24	.29	18	258	1.0	2.0	1.5	1.0	.24
26	.40	.40	.46	.24	.29	1.8	258	1.0	2.0	1.5	1.1	.24
27	.40	.40	.46	.24	.29	1.8	264	.88	2.0	1.5	1.1	.24
28	.40	.40	.46	.24	.29	1.8	258	1.0	2.0	1.7	1.1	.24
29	.40	.40	.46	.24	.29	1.8	264	1.0	2.0	1.7	1.1	.24
30	.40	.40	.46	.24	---	1.7	329	1.0	2.0	1.7	1.1	.24
31	.40	---	.46	.29	---	1.7	---	2.0	---	1.7	1.1	---
TOTAL	14.30	12.00	11.48	10.55	8.06	1197.43	1935.1	2156.52	59.8	47.5	40.98	20.94
MEAN	.46	.40	.37	.34	.28	38.6	64.5	69.6	1.99	1.53	1.32	.70
MAX	.50	.40	.46	.46	.29	110	329	310	2.2	1.7	1.8	1.2
MIN	.40	.40	.30	.24	.24	.29	1.5	.88	1.8	1.4	.88	.20
AC-FT	28	24	23	21	16	2380	3840	4280	119	94	81	42

CAL YR 1979	TOTAL	7577.10	MEAN 20.8	MAX 540	MIN .30	AC-FT	15030	
WTR YR 1980	TOTAL	5514.66	MEAN 15.1	MAX 329	MIN .20	AC-FT	10940	

NOTE.--No gage-height record Oct. 1 to Nov. 16.

09386030 LITTLE COLORADO RIVER ABOVE ZION RESERVOIR, NEAR ST. JOHNS, AZ

LOCATION.--Lat 34°35'01", long 109°24'23", in SE¼SE¼ sec.30, T.14 N., R.28 E., Apache County, Hydrologic Unit 15020002, on downstream side of center pier of bridge on private road, 1.5 mi (2.4 km) upstream from Carrizo Creek, 4 mi (6 km) upstream from Zion Reservoir, and 5.8 mi (9.3 km) northwest of St. Johns.

DRAINAGE AREA.--975 mi^2 (2,525 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,560 ft (1,690 m), from topographic map.

REMARKS.--Records good. Diversions above station for irrigation about 10,200 acres (41.3 km^2), including 1,500 acres (6.07 km^2) served by Lyman Canal. Regulation by many reservoirs above station (combined capacity, 46,900 acre-ft or 57.8 hm^3), the largest of which is Lyman Lake.

AVERAGE DISCHARGE.--5 years, 10.1 ft^3/s (0.286 m^3/s), 7,320 acre-ft/yr (9.02 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291 ft^3/s (8.24 m^3/s) Apr. 28, 1979, gage height, 3.14 ft (0.957 m); minimum daily, 0.04 ft^3/s (0.001 m^3/s) Aug. 2, Sept. 7, Oct. 16-20, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 40 ft^3/s (1.133 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 20	0230	53	1.50	2.20	0.671
May 1	2315	139	3.94	2.73	0.832
Aug. 3	1215	45	1.27	2.07	0.631
Sept. 10	0345	*248	7.02	3.06	0.933
Sept. 27	0800	40	1.13	2.05	0.625

Minimum daily, 0.08 ft^3/s (0.002 m^3/s) Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	2.6	13	12	8.8	8.4	15	133	2.0	.09	1.2	.63
2	.14	2.9	14	11	8.0	8.4	14	135	2.0	.09	.08	.15
3	.13	2.7	14	10	8.0	8.9	13	128	2.0	.09	8.4	.10
4	.12	2.6	15	9.7	7.2	12	12	116	1.6	.09	.10	.13
5	.14	2.4	13	9.6	7.2	10	12	105	1.9	.09	1.6	.21
6	.15	1.9	12	8.9	7.6	9.1	11	102	2.7	.09	1.2	.41
7	.17	2.7	12	9.2	8.0	8.8	11	97	2.9	1.1	1.4	.42
8	.17	6.0	11	9.5	8.0	9.2	10	90	2.4	2.4	2.0	1.6
9	.18	7.9	12	9.3	8.0	9.2	11	81	2.0	1.4	.70	54
10	.19	6.3	12	9.3	7.6	9.2	10	74	2.0	1.8	.57	112
11	.34	5.3	13	9.5	7.6	9.6	8.9	69	2.7	.87	1.1	26
12	.52	5.3	14	10	7.6	15	9.1	60	3.0	.50	2.0	9.6
13	.30	5.2	13	10	8.0	14	12	50	4.6	.10	3.9	6.0
14	.39	6.0	12	9.5	9.2	26	11	42	1.8	.18	4.5	5.1
15	.25	6.9	12	13	15	47	11	36	2.4	.12	4.0	5.3
16	.19	7.2	13	13	27	48	10	33	3.8	.18	3.4	5.1
17	.27	12	14	9.7	23	49	9.8	29	2.0	.18	3.3	5.6
18	.45	12	14	9.2	15	50	10	24	2.4	.18	2.9	4.7
19	.74	12	13	11	9.6	51	10	21	2.4	.11	2.7	3.6
20	.91	12	12	15	26	53	10	17	2.7	.74	.31	3.4
21	1.2	12	13	15	17	53	11	12	2.9	.32	.32	2.8
22	1.2	13	14	14	11	52	10	9.0	2.2	.10	.28	2.4
23	1.4	15	15	12	9.2	49	9.0	8.0	1.8	.09	.38	2.1
24	1.2	15	22	11	8.8	47	41	9.0	1.8	.11	2.9	1.7
25	1.4	13	22	10	8.7	47	87	7.0	1.0	.11	.50	1.9
26	1.5	13	14	10	8.4	36	112	5.0	1.4	.11	.42	1.9
27	1.7	14	15	9.6	8.8	19	114	3.0	1.3	.12	.89	17
28	2.0	13	15	9.6	8.8	20	111	4.0	1.1	.10	.31	8.8
29	2.4	14	12	8.8	8.7	20	117	4.0	.24	1.4	.38	5.3
30	2.8	15	11	8.8	---	19	125	4.0	.11	.87	.49	4.6
31	2.9	---	12	9.6	---	17	---	3.0	---	11	.64	---
TOTAL	25.56	258.9	421	326.8	315.8	834.8	957.8	1510.0	63.15	24.73	52.87	292.55
MEAN	.82	8.63	13.6	10.5	10.9	26.9	31.9	48.7	2.11	.80	1.71	9.75
MAX	2.9	15	22	15	27	53	125	135	4.6	11	8.4	112
MIN	.11	1.9	11	8.8	7.2	8.4	8.9	3.0	.11	.09	.08	.10
AC-FT	51	514	835	648	626	1660	1900	3000	125	49	105	580

CAL YR 1979 TOTAL 7371.26 MEAN 20.2 MAX 270 MIN .10 AC-FT 14620
WTR YR 1980 TOTAL 5083.96 MEAN 13.9 MAX 135 MIN .08 AC-FT 10080

09386030 LITTLE COLORADO RIVER ABOVE ZION RESERVOIR, NEAR ST. JOHNS, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
MAY												
01...	1015	139	505	7.8	10.5	160	13	42	14	44	1.5	4.4

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY											
01...	150	57	30	.5	16	298	.41	.02	80	40	9

09386950 ZUNI RIVER ABOVE BLACK ROCK RESERVOIR, NM

LOCATION.--Lat 35°06'03", long 108°45'03", in NE¼ sec.17, T.10 N., R.18 W., McKinley County, Hydrologic Unit 15020004, on Zuni Indian Reservation, on left bank downstream from highway bridge on State Highway 36, 0.8 mi (1.3 km) upstream from flow line of Black Rock Reservoir, 2.3 mi (3.7 km) northeast of Black Rock, and 5.9 mi (9.5 km) northeast of Zuni Pueblo.

DRAINAGE AREA.--810 mi^2 (2,100 km^2), approximately.

PERIOD OF RECORD.--October 1969 to current year. Prior to October 1974 published as "above Zuni Reservoir."

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,480 ft (1,975 m), from topographic map.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 14.0 ft^3/s (0.396 m^3/s), 10,140 acre-ft/yr (12.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft^3/s (147 m^3/s) Aug. 4, 1974, gage height, 6.61 ft (2.015 m), from rating curve extended above 670 ft^3/s (19.0 m^3/s) on basis of slope-area measurements at gage heights 4.05, 3.94, 5.16, and 6.61 ft (1.234, 1.201, 1.573, and 2.015 m); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 100 ft^3/s (2.8 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 18	1930	738	20.9	4.48	1.366
Apr. 11	1945	*996	28.2	4.70	1.433

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.1	.44	1.1	5.2	138	102	24	1.7	.00	.01	25
2	.00	.99	.43	1.3	3.3	162	94	13	1.5	.00	.00	25
3	.00	.91	.52	1.4	2.6	165	96	9.8	1.4	.00	.00	25
4	.00	.94	.79	1.0	2.4	205	93	9.8	1.7	.00	.00	11
5	.00	.89	.91	.65	2.0	223	114	9.6	1.1	.00	.00	2.8
6	.00	.80	.91	.74	2.0	190	181	11	.36	.00	.00	.81
7	.00	1.0	.91	.96	2.1	163	388	11	.18	.00	.00	.28
8	.00	9.4	.94	1.3	1.8	157	682	13	.11	.00	.00	1.6
9	.00	5.2	.87	1.7	1.5	148	736	12	.07	24	.00	3.9
10	.00	2.9	.84	2.6	1.6	120	740	11	.06	26	.00	1.1
11	.00	1.8	.80	5.7	1.6	110	828	9.9	.04	7.0	.00	.85
12	.00	1.3	.76	9.9	1.7	102	785	7.9	.02	1.9	.00	.42
13	.00	1.1	.72	12	1.5	103	482	7.4	.00	.56	.00	.18
14	.00	1.1	.66	8.2	3.4	93	312	7.4	.00	.25	.00	.07
15	.00	.94	.68	18	101	90	269	7.6	.00	.11	.00	.04
16	.00	.84	.73	6.0	36	122	352	6.9	.00	.05	.00	.02
17	.00	.88	.76	4.2	33	150	466	6.6	.00	.01	.00	.00
18	.00	1.0	.71	4.2	155	146	454	5.8	.00	.00	.00	.00
19	.00	1.0	.71	5.6	136	126	380	6.4	.00	.00	.00	.00
20	.00	1.1	.98	6.3	406	134	321	6.9	.00	.00	.00	.00
21	11	.85	.90	4.9	370	138	248	6.3	.00	.00	.00	.00
22	3.8	.57	.86	3.3	247	142	190	5.7	.00	.00	.00	.00
23	.97	.45	.82	2.2	130	210	162	5.3	.00	.00	.00	.02
24	.75	.51	.76	2.1	80	234	137	4.4	.00	.00	.00	.04
25	22	.89	.99	2.2	50	195	113	4.5	.00	.00	.00	.09
26	6.9	1.1	1.2	2.4	60	185	100	4.2	.00	.00	.00	.06
27	2.1	1.2	1.1	2.0	80	175	86	4.0	.00	.00	.00	.04
28	1.3	.74	.90	2.3	102	146	61	4.0	.00	.00	.00	.02
29	1.2	.45	.78	2.2	111	134	47	3.2	.00	.00	3.3	.00
30	1.2	.44	.69	17	---	118	42	2.3	.00	2.2	24	.00
31	1.2	---	1.1	13	---	102	---	2.0	---	.09	25	---
TOTAL	52.42	42.39	25.17	146.45	2129.7	4626	9061	242.9	8.24	62.17	52.31	98.34
MEAN	1.69	1.41	.81	4.72	73.4	149	302	7.84	.27	2.01	1.69	3.28
MAX	22	9.4	1.2	18	406	234	828	24	1.7	26	25	25
MIN	.00	.44	.43	.65	1.5	90	42	2.0	.00	.00	.00	.00
AC-FT	104	84	50	290	4220	9180	17970	482	16	123	104	195

CAL YR 1979 TOTAL 13139.33 MEAN 36.0 MAX 727 MIN .00 AC-FT 26060
WTR YR 1980 TOTAL 16547.09 MEAN 45.2 MAX 828 MIN .00 AC-FT 32820

09390500 SHOW LOW CREEK NEAR LAKESIDE, AZ

LOCATION.--Lat 34°10'46", long 109°59'14", in SW¼NW¼ sec.14, T.9 N., R.22 E., Navajo County, Hydrologic Unit 15020005, on left bank 1 mi (2 km) upstream from pumping plant on Show Low Lake, 1.9 mi (3.1 km) northwest of Lakeside, 2.2 mi (3.5 km) upstream from Jaques Dam, and 6 mi (10 km) southeast of Show Low.

DRAINAGE AREA.--68.6 mi^2 (177.7 km^2).

PERIOD OF RECORD.--May 1953 to current year.

REVISED RECORDS.--WSP 1513: 1954-56. WSP 1926: Drainage area. WRD Ariz. 1971: 1970(M).

GAGE.--Water-stage recorder and concrete-dam control with V-notch sharp-crested weir. Altitude of gage is 6,610 ft (2,015 m), from topographic map.

REMARKS.--Records good except those for June 2 to July 1, which are poor. Record shows inflow to Show Low Lake. Flow partly regulated by several small reservoirs, largest of which are Rainbow Lake and Scott Reservoir, combined capacity, 2,400 acre-ft (2.96 hm^3). Diversions for irrigation of about 250 acres (1.01 km^2) above station.

AVERAGE DISCHARGE.--27 years, 13.6 ft^3/s (0.385 m^3/s), 9,850 acre-ft/yr (12.1 hm^3/yr); median of yearly mean discharges, 9.4 ft^3/s (0.27 m^3/s), 6,800 acre-ft/yr (8.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,550 ft^3/s (157 m^3/s) Dec. 18, 1978, gage height, 9.16 ft (2.792 m), from rating curve extended above 2,500 ft^3/s (71 m^3/s); maximum gage height, 9.53 ft (2.905 m) Dec. 26, 1971; no flow Oct. 5, 6, Dec. 10-19, 1964, Jan. 4-15, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 100 ft^3/s (2.8 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	1945	406	11.5	3.78	1.152
Feb. 15	1415	*1,860	52.7	5.90	1.798
Feb. 20	0045	1,530	43.3	5.51	1.679
Mar. 7	0215	178	5.04	3.22	0.981
Mar. 12	0200	171	4.84	3.20	0.975
Apr. 4	0400	130	3.68	3.08	0.939

Minimum daily, 4.1 ft^3/s (0.116 m^3/s) Dec. 17-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	7.3	5.2	4.4	223	77	71	19	7.1	9.3	6.8	5.9
2	6.4	7.2	5.5	4.9	159	66	71	17	7.3	8.7	7.2	5.7
3	6.4	7.0	5.7	4.6	102	74	67	16	7.5	7.9	7.8	5.8
4	6.4	6.8	5.7	4.7	92	72	92	15	8.0	7.5	7.9	5.8
5	6.7	6.9	5.8	4.6	78	91	77	15	8.0	7.1	7.1	6.5
6	6.3	7.3	5.9	4.6	66	123	72	14	8.0	7.1	6.8	8.1
7	6.4	8.2	5.3	4.5	64	124	71	13	8.0	7.9	6.5	7.7
8	6.2	11	5.0	4.7	46	83	65	11	8.0	7.6	6.4	7.4
9	4.7	8.5	5.1	5.1	30	61	60	10	8.0	7.3	6.3	7.2
10	4.5	7.1	4.9	8.4	22	55	63	9.3	8.0	7.7	6.0	7.4
11	4.5	6.6	4.5	9.6	19	73	63	8.5	8.0	7.7	5.8	7.4
12	4.4	6.2	4.8	8.6	17	126	54	8.9	8.0	10	6.0	7.0
13	4.4	6.1	4.7	8.0	17	103	55	9.6	8.0	17	6.2	7.0
14	4.4	6.0	4.7	7.5	258	74	50	9.8	8.0	11	7.7	6.3
15	4.6	6.0	4.4	16	1240	72	45	9.3	8.0	8.6	7.1	6.4
16	4.6	5.9	4.3	11	578	65	47	8.9	8.0	7.9	6.5	7.0
17	4.6	5.7	4.1	9.5	322	55	47	9.4	8.0	7.9	6.0	6.5
18	4.5	5.7	4.1	10	280	53	45	9.8	8.0	7.7	6.1	6.2
19	4.5	5.9	4.1	14	521	56	44	10	8.0	7.6	5.4	5.9
20	4.7	6.0	4.1	12	781	55	40	9.6	8.0	7.9	5.0	5.9
21	6.3	5.8	5.1	10	373	81	36	8.9	8.0	8.0	5.1	5.7
22	5.3	5.2	5.7	9.0	336	84	35	8.6	8.0	8.8	5.4	5.8
23	5.0	5.0	5.2	7.9	227	67	27	8.1	8.0	9.0	15	5.9
24	4.9	5.1	4.7	7.1	157	60	20	7.7	8.0	9.1	25	5.9
25	4.8	5.3	4.4	7.4	162	63	19	8.0	8.0	8.3	13	5.8
26	4.6	5.5	5.3	7.8	89	56	19	7.5	8.5	8.3	10	7.2
27	4.7	5.6	5.8	8.3	84	61	17	7.5	8.5	7.7	8.0	7.9
28	4.7	5.3	5.2	9.4	89	80	15	7.4	9.0	7.5	6.6	7.9
29	4.6	4.6	4.8	19	94	77	16	6.8	9.0	7.4	6.4	8.0
30	5.3	4.9	4.6	275	---	77	18	6.8	9.5	7.4	6.2	7.7
31	7.0	---	4.3	275	---	70	---	6.6	---	7.0	5.9	---
TOTAL	162.9	189.7	153.0	792.6	6526	2334	1421	317.0	242.4	259.9	237.2	200.9
MEAN	5.25	6.32	4.94	25.6	225	75.3	47.4	10.2	8.08	8.38	7.65	6.70
MAX	7.0	11	5.9	275	1240	126	92	19	9.5	17	25	8.1
MIN	4.4	4.6	4.1	4.4	17	53	15	6.6	7.1	7.0	5.0	5.7
AC-FT	323	376	303	1570	12940	4630	2820	629	481	516	470	398

CAL YR 1979 TOTAL 11331.1 MEAN 31.0 MAX 300 MIN 4.1 AC-FT 22480
WTR YR 1980 TOTAL 12836.6 MEAN 35.1 MAX 1240 MIN 4.1 AC-FT 25460

09392000 SHOW LOW CREEK BELOW JAQUES DAM, NEAR SHOW LOW, AZ

LOCATION.--Lat 34°11'47", long 110°00'13", in NW¼ sec.10, T.9 N., R.22 E., Navajo County, Hydrologic Unit 15020005, on right bank just downstream from Jaques Dam, 3.5 mi (5.6 km) northwest of Lakeside, and 4.5 mi (7.2 km) southeast of Show Low.

DRAINAGE AREA.--73.0 mi^2 (189 km^2).

PERIOD OF RECORD.--November 1941 to January 1945, June 1953 to September 1955 (monthly discharge only), October 1955 to current year. Monthly discharge only November 1941 to January 1945, published in WSP 1313. Published as "at Jaques damsite, near Lakeside" 1941-45.

REVISED RECORDS.--WSP 1926: Drainage area.

GAGE.--Water-stage recorder and sharp-crested weir, with periodic supplementary lake elevation readings for flow over concrete spillway. Altitude of gage is 6,530 ft (1,990 m), from topographic map. November 1941 to January 1945 nonrecording gage at site 100 ft (30 m) upstream at different datum.

REMARKS.--Records good. Record since 1953 shows release from Show Low Lake. Flow regulated by several reservoirs, largest of which are Show Low Lake, completed in 1953; Rainbow Lake, completed prior to 1941; and Scott Reservoir, completed in 1946 (combined capacity, 8,800 acre-ft or 10.9 hm^3). Diversions for irrigation of about 250 acres (1.0 km^2) above Show Low Lake and diversion by pumping of floodwater stored in Show Low Lake to Forestdale Creek in Salt River basin (see record for Forestdale Creek diversion from Show Low Creek, near Show Low, elsewhere in this report).

AVERAGE DISCHARGE.--27 years (water years 1954-80), 8.08 ft^3/s (0.229 m^3/s), 5,850 acre-ft/yr (7.21 hm^3/yr); median of yearly mean discharges, 3.6 ft^3/s (0.10 m^3/s), 2,600 acre-ft/yr (3.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--1941-45: Maximum daily discharge, 304 ft^3/s (8.61 m^3/s) Mar. 6, 1943; no flow Aug. 8, 9, 1943. 1953-80: Maximum discharge, 5,490 ft^3/s (155 m^3/s), spillway flow entering 0.2 mi (0.3 km) downstream from station, Dec. 18, 1978, lake elevation, 6,573.7 ft (2,004 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,390 ft^3/s (39.4 m^3/s) Feb. 15, lake elevation, 6,571.8 ft (2,003 m); minimum daily, 0.11 ft^3/s (0.003 m^3/s) May 4.

09391000. SHOW LOW LAKE.--A lake on Show Low Creek, formed by Jaques Dam, in NW¼ sec.10, T.9 N., R.22 W., Navajo County, 4.5 mi (7.2 km) southeast of Show Low; dam completed and storage began in spring of 1953. Total capacity to spillway, 6,176 acre-ft (7.62 km^3), consisting of 1,070 acre-ft (1.32 hm^3) dead storage below elevation 6,535.0 ft (1,991.87 m), sill of outlet structure, and 5,106 acre-ft (6.30 hm^3) usable storage between elevation 6,535.0 and 6,570.0 ft (1,991.87 and 2,002.54 m), sill of overflow spillway. Capacity table prepared by Leeds, Hill, and Jewett, consulting engineers, from surveys by the firm. Water cannot be pumped when lake elevation is below 6,538.5 ft (1,992.93 m), sill of intake to pumping plant, but can be released to river channel down to elevation 6,535.0 ft (1,991.87 m). Partial listing of periodic observations made by Navapache Electric Co. and Geological Survey were as follows:

Date	Elevation (feet)	Usable contents (acre-feet)	Date	Elevation (feet)	Usable contents (acre-feet)
Oct. 30, 1979	6,539.5	1,520	Mar. 31, 1980	6,570.1	6,190
Dec. 3	6,542.5	1,860	Apr. 3	6,570.2	6,220
Feb. 14, 1980	6,567.0	5,600	May 1	6,569.8	6,140
Feb. 20	6,571.0	6,300	June 2	6,569.6	6,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	1.3	1.4	1.4	1.7	40	20	2.1	7.0	6.5	6.1	.30
2	4.2	1.3	1.4	1.4	1.8	40	20	2.1	7.1	6.3	6.0	1.8
3	4.2	1.3	1.4	1.4	1.8	70	20	1.3	7.1	6.3	6.0	2.7
4	4.2	1.3	1.4	1.4	1.8	70	40	.11	7.1	6.2	6.0	2.7
5	4.2	1.3	1.4	1.4	1.8	70	40	.13	7.1	6.2	6.0	2.7
6	4.2	1.3	1.4	1.4	1.8	70	30	.13	7.1	6.2	6.0	2.7
7	4.2	1.3	1.4	1.4	1.8	70	20	.13	7.1	6.2	6.0	2.7
8	4.2	1.3	1.4	1.4	2.0	70	20	.13	7.1	6.2	6.0	2.7
9	4.2	1.3	1.4	1.4	2.0	70	15	.13	7.1	6.2	6.0	2.7
10	2.7	1.4	1.4	1.4	2.0	40	15	.13	7.1	6.2	6.4	2.7
11	1.4	1.3	1.4	1.4	2.0	40	15	.82	7.0	6.2	6.4	2.7
12	1.4	1.3	1.4	1.4	2.0	70	10	3.0	7.0	6.1	6.4	2.7
13	1.4	1.3	1.4	1.4	2.0	40	10	3.0	6.9	6.2	6.4	2.7
14	1.4	1.3	1.4	1.4	20	20	8.6	3.0	6.9	6.1	6.4	2.7
15	1.4	1.3	1.4	1.4	1390	10	7.1	3.0	6.9	6.0	6.3	2.7
16	1.4	1.3	1.4	1.4	700	10	5.6	3.0	6.9	6.0	6.2	2.6
17	1.4	1.3	1.4	1.4	290	10	5.6	3.0	6.9	6.0	6.2	2.6
18	1.4	1.3	1.4	1.4	250	10	5.6	3.0	6.9	6.0	6.2	2.6
19	1.4	1.4	1.4	1.4	480	10	5.6	3.0	6.9	6.0	6.2	2.6
20	1.4	1.3	1.4	1.4	780	10	3.1	3.0	6.9	6.0	6.2	2.6
21	1.4	1.3	1.4	1.5	340	10	2.1	2.1	6.8	6.0	6.0	2.6
22	1.4	1.3	1.4	1.6	250	10	2.1	2.5	6.7	5.9	6.0	2.6
23	1.4	1.3	1.4	1.6	170	10	2.1	2.5	6.7	6.8	6.0	2.6
24	1.4	1.3	1.4	1.5	120	10	2.1	2.5	6.6	7.1	2.2	2.6
25	1.4	1.3	1.4	1.4	100	10	2.1	2.5	6.6	6.5	.30	4.6
26	1.4	1.4	1.4	1.5	90	10	2.1	2.5	6.6	6.2	.30	6.9
27	1.4	1.4	1.4	1.5	80	40	2.1	2.5	6.6	6.2	.30	6.9
28	1.3	1.4	1.4	1.5	80	40	2.1	2.5	6.6	6.2	.30	6.9
29	1.3	1.4	1.4	1.5	80	30	2.1	2.5	6.6	6.2	.30	6.9
30	1.3	1.4	1.4	1.6	---	20	2.1	2.5	6.6	6.2	.30	6.9
31	1.3	---	1.4	1.7	---	20	---	2.5	---	6.2	.30	---
TOTAL	69.5	39.7	43.4	44.9	5244.5	1050	337.2	61.31	206.5	192.6	145.70	99.70
MEAN	2.24	1.32	1.40	1.45	181	33.9	11.2	1.98	6.88	6.21	4.70	3.32
MAX	4.2	1.4	1.4	1.7	1390	70	40	3.0	7.1	7.1	6.4	6.9
MIN	1.3	1.3	1.4	1.4	1.7	10	2.1	.11	6.6	5.9	.30	.30
AC-FT	138	79	86	89	10400	2080	669	122	410	382	289	198

CAL YR 1979 TOTAL 9758.83 MEAN 26.7 MAX 300 MIN .00 AC-FT 19360
WTR YR 1980 TOTAL 7535.01 MEAN 20.6 MAX 1390 MIN .11 AC-FT 14950

09393500 SILVER CREEK NEAR SNOWFLAKE, AZ

LOCATION.--Lat 34°40'00", long 110°02'30", in SW¼NW¼ sec.29, T.15 N., R.22 E., Navajo County, Hydrologic Unit 15020005, on left bank 6 mi (10 km) upstream from mouth and 11 mi (18 km) north of Snowflake.

DRAINAGE AREA.--886 mi^2 (2,295 km^2).

PERIOD OF RECORD.--October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,204.1 ft (1,586.21 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Diversions for irrigation above station of about 6,600 acres (26.7 km^2). Flow regulated by several reservoirs—combined capacity, about 13,700 acre-ft (16.9 hm^3), excluding Lone Pine Reservoir, but including 6,176 acre-ft (7.62 hm^3) in Show Low Lake.

AVERAGE DISCHARGE.--30 years, 19.4 ft^3/s (0.549 m^3/s), 14,060 acre-ft/yr (17.3 hm^3/yr); median of yearly mean discharges, 14 ft^3/s (0.40 m^3/s), 10,100 acre-ft/yr (12 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft^3/s (286 m^3/s) Jan. 19, 1952, gage height, 18.0 ft (5.49 m), from rating curve extended above 4,400 ft^3/s (125 m^3/s) on basis of peak discharge for former station near Woodruff; no flow for several days in water years 1971, 1974-78.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,000 ft^3/s (28.3 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	0300	2,610	73.9	8.94	2.725
Feb. 20	unknown	*4,460	126	a11.6	3.54

No flow May 23, 24, June 3-6, 24-26.
a From high-water mark inside gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	3.9	4.7	8.7	115	110	50	3.2	.33	.53	.61	.58
2	1.5	3.0	4.7	8.2	58	90	50	3.3	.07	.26	2.4	1.6
3	.58	4.2	3.7	8.0	26	90	50	2.2	.00	.14	3.0	.94
4	.79	3.3	2.2	5.0	15	80	51	2.0	.00	.27	2.2	2.4
5	1.1	2.0	3.5	5.0	10	70	66	1.9	.00	.23	65	4.0
6	1.8	2.8	2.8	8.0	7.9	70	52	2.0	.00	.34	130	2.3
7	3.2	4.7	1.9	8.2	5.9	100	41	1.5	.64	.59	20	2.1
8	2.2	12	3.8	8.1	5.4	100	35	1.2	.42	.22	10	3.9
9	2.5	7.5	2.8	6.4	5.0	60	32	1.2	.26	.22	7.8	4.9
10	1.3	6.6	3.3	6.2	4.5	40	25	.92	.59	1.0	3.5	27
11	3.0	6.0	3.0	7.3	5.0	40	21	.61	.24	1.4	1.6	15
12	1.9	5.1	2.0	7.6	5.4	50	17	.28	.02	1.4	1.7	6.2
13	.81	4.8	2.6	7.8	4.7	100	14	.16	.48	28	1.9	3.7
14	.73	4.5	1.9	6.6	1310	80	16	.19	.29	8.4	57	2.2
15	.67	5.2	2.2	8.1	1340	50	14	2.0	1.4	2.5	49	2.3
16	2.5	5.5	3.9	8.1	1000	50	9.6	3.0	.48	.98	7.8	2.7
17	4.5	5.5	3.2	8.8	800	50	5.6	1.7	.42	.41	3.4	2.6
18	4.6	5.0	5.7	8.4	500	40	3.5	.91	.12	.09	1.7	3.9
19	2.9	4.7	5.4	9.4	800	40	2.2	.96	.15	2.3	2.1	1.4
20	1.2	5.3	3.3	11	2000	40	1.8	.69	.38	2.0	2.8	.38
21	6.9	5.1	3.7	11	1800	40	1.9	.22	.17	1.4	2.7	2.9
22	10	5.0	5.5	10	1700	60	3.4	.02	.08	.66	1.5	.70
23	6.3	4.7	6.4	9.7	930	60	13	.00	.13	1.8	.92	.59
24	5.5	5.7	7.3	8.7	404	40	6.7	.00	.00	3.6	134	3.7
25	3.3	4.8	8.0	8.4	228	40	4.9	.18	.00	1.4	83	3.7
26	2.2	5.1	8.1	8.4	164	40	4.5	.65	.00	.99	20	1.5
27	1.6	6.1	8.3	8.4	130	40	5.3	.51	.90	.95	8.6	1.0
28	1.9	5.6	9.4	8.1	105	40	2.5	1.3	.45	.59	6.7	2.7
29	2.1	4.9	9.3	8.1	99	60	1.7	2.0	.36	.23	4.6	3.7
30	4.5	4.7	8.8	227	---	60	1.8	1.9	.69	.79	3.6	4.8
31	3.5	---	8.4	231	---	60	---	.49	---	1.0	2.5	---
TOTAL	86.88	153.3	149.8	693.7	13577.8	1890	602.4	37.19	9.07	64.69	641.63	115.39
MEAN	2.80	5.11	4.83	22.4	468	61.0	20.1	1.20	.30	2.09	20.7	3.85
MAX	10	12	9.4	231	2000	110	66	3.3	1.4	28	134	27
MIN	.58	2.0	1.9	5.0	4.5	40	1.7	.00	.00	.09	.61	.38
AC-FT	172	304	297	1380	26930	3750	1190	74	18	128	1270	229

CAL YR 1979 TOTAL 15685.65 MEAN 37.5 MAX 1700 MIN .10 AC-FT 27150
WTR YR 1980 TOTAL 18021.85 MEAN 49.2 MAX 2000 MIN .00 AC-FT 35750

NOTE.--No gage-height record Feb. 15-22, Feb. 29 to Apr. 3.

09394500 LITTLE COLORADO RIVER AT WOODRUFF, AZ

LOCATION.--Lat 34°46'58", long 110°02'37", in NE¼SW¼ sec.17, T.16 N., R.22 E., Navajo County, Hydrologic Unit 15020002, on left bank at abandoned county road bridge in Woodruff, 3.7 mi (6.0 km) downstream from Silver Creek.

DRAINAGE AREA.--8,100 mi^2 (21,000 km^2), approximately.

PERIOD OF RECORD.--March to May 1905; June to July 1905 (gage heights only); August 1905 to May 1907; July 1907 to April 1908, July to October 1908, December 1908, and December 1915 to September 1916 (gage heights only); October 1916 to August 1917 (monthly discharge only); September 1917 to March 1918, December 1918 to December 1919, April 1929 to December 1933, September 1935 to current year. Published as "near Woodruff" 1916-19, 1929-48.

REVISED RECORDS.--WSP 1049: 1917. WSP 1213: 1906, 1919(M).

GAGE.--Water-stage recorder. Datum of gage is 5,130.3 ft (1,563.72 m) National Geodetic Vertical Datum of 1929. See WSP 1733 for history of changes prior to Sept. 22, 1949.

REMARKS.--Records poor. Diversions above station for irrigation of about 22,000 acres (89.0 km^2) including a pump installation 1,000 ft (305 m) upstream installed in spring of 1973. Some regulation by reservoirs above station; combined capacity, about 73,000 acre-ft (90.0 hm^3), excluding Lone Pine Reservoir.

AVERAGE DISCHARGE.--51 years (water years 1906, 1917, 1930-33, 1936-80), 52.5 ft^3/s (1.487 m^3/s), 38,040 acre-ft/yr (46.9 hm^3/yr); median of yearly mean discharges, 46 ft^3/s (1.30 m^3/s), 33,300 acre-ft/yr (41 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred Jan. 19, 1916; maximum discharge recorded, 25,000 ft^3/s (708 m^3/s) Dec. 5, 1919; maximum gage height, 22.9 ft (6.98 m) from high-water mark in gage well, Dec. 19, 1978; no flow at times in most years prior to 1960 and in 1974 and 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 1,300 ft^3/s or 36.8 m^3/s on basis of slope-area measurement at gage height 22.9 ft or 6.98 m) and peak discharges above base of 1,900 ft^3/s (54 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	1145	2,530	71.6	12.74	3.883
Feb. 20	unknown	*5,300	150	a17.5	5.33

Minimum daily, 0.29 ft^3/s (0.008 m^3/s) June 14.
a From flood marks.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	6.9	14	9.0	181	190	147	121	5.0	4.1	4.3	12
2	7.0	8.3	21	9.0	120	180	144	125	4.0	3.6	13	11
3	7.0	6.9	15	9.0	68	180	141	129	4.0	4.5	9.0	10
4	7.0	9.7	7.7	8.0	50	180	140	144	4.0	4.3	8.6	10
5	7.0	7.0	6.9	9.0	30	180	149	160	3.0	2.7	136	15
6	7.0	6.6	8.0	10	20	190	125	175	3.0	4.4	158	15
7	8.0	11	6.4	10	15	200	100	176	2.0	4.2	70	15
8	8.0	128	6.6	10	13	183	85	168	2.0	5.2	40	20
9	8.0	91	7.1	10	12	186	81	143	2.0	3.8	35	25
10	8.0	37	6.6	10	11	188	78	124	1.6	3.6	31	80
11	8.0	20	7.6	15	10	195	77	113	1.6	5.9	23	70
12	8.0	15	6.7	15	10	202	83	102	1.3	4.1	21	34
13	8.0	11	6.0	15	10	252	112	96	1.1	25	24	22
14	8.0	9.0	7.3	15	40	215	169	90	.29	21	27	17
15	10	9.5	8.8	20	850	192	208	83	.82	4.1	133	13
16	9.0	10	11	20	977	177	233	75	2.3	7.4	38	14
17	9.0	10	9.9	20	700	158	255	66	1.7	6.3	25	13
18	9.3	10	10	20	450	144	243	55	1.7	5.6	20	13
19	9.9	9.4	11	40	1000	114	202	47	1.7	2.9	13	11
20	6.6	8.9	8.2	100	2600	89	166	41	1.3	7.4	8.2	9.4
21	16	9.7	8.0	80	2000	86	161	34	.53	4.9	18	9.0
22	49	9.5	8.5	70	1700	88	181	28	.56	5.2	16	8.6
23	21	9.2	9.1	50	1000	91	208	22	1.3	4.1	50	7.8
24	12	9.5	8.8	40	600	94	206	17	.90	9.4	230	8.2
25	10	10	9.9	35	400	103	188	14	1.2	4.9	180	9.0
26	7.7	8.9	11	35	300	105	177	12	1.6	3.1	50	7.0
27	6.3	8.6	72	32	250	109	190	10	1.3	5.2	35	5.9
28	6.0	9.9	65	30	220	126	166	9.0	3.0	4.3	25	6.3
29	6.2	8.6	34	28	200	142	145	7.0	4.0	6.3	20	6.6
30	5.9	8.5	15	32	---	160	126	7.0	4.0	4.3	17	6.6
31	8.8	---	9.0	410	---	155	---	6.0	---	4.9	13	---
TOTAL	308.7	517.6	436.1	1216.0	13837	4854	4686	2399.0	62.80	186.7	1491.1	504.4
MEAN	9.96	17.3	14.1	39.2	477	157	156	77.4	2.09	6.02	48.1	16.8
MAX	49	128	72	410	2600	252	255	176	5.0	25	230	80
MIN	5.9	6.6	6.0	8.0	10	86	77	6.0	.29	2.7	4.3	5.9
AC-FT	612	1030	865	2410	27450	9630	9290	4760	125	370	2960	1000

CAL YR 1979 TOTAL 22099.50 MEAN 60.5 MAX 2260 MIN 5.9 AC-FT 43830
WTR YR 1980 TOTAL 30499.40 MEAN 83.3 MAX 2600 MIN .29 AC-FT 60500

NOTE.--No gage-height record Dec. 29 to Jan. 28, Feb. 5 to Mar. 7.

09395900 BLACK CREEK NEAR LUPTON, AZ

LOCATION.--Lat 35°27'09", long 109°07'30", in E½NE¼ sec.26, T.24 N., R.30 E. (unsurveyed), Apache County, Hydrologic Unit 15020006, in Navajo Indian Reservation, on downstream end of center bridge pier on State Highway 166, 7 mi (11 km) upstream from West Fork, and 8 mi (13 km) northwest of Lupton, and 16 mi (26 km) south of Window Rock.

DRAINAGE AREA.--500 mi^2 (1,300 km^2), approximately.

PERIOD OF RECORD.--August 1964 to December 1972, May 1974 to current year (monthly discharge only, October 1978 to September 1979).

GAGE.--Water-stage recorder. Altitude of gage is 6,550 ft (1,996 m), from topographic map. Prior to May 1974 at site 160 ft (49 m) downstream at same datum.

REMARKS.--Records poor. Small diversions above station for irrigation and stock water. Red Lake, near headwaters 35 mi (56 km) upstream, was built in 1954, with capacity of 9,700 acre-ft (12.0 hm^3), but silting may have reduced this amount.

AVERAGE DISCHARGE.--14 years, 8.04 ft^3/s (0.228 m^3/s), 5,820 acre-ft/yr (7.18 hm^3/yr); median of yearly mean discharges, 7.5 ft^3/s (0.21 m^3/s), 5,400 acre-ft/yr (6.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,160 ft^3/s (203 m^3/s) Aug. 17, 1977, gage height, 9.35 ft (2.850 m), from rating curve extended above 90 ft^3/s (2.55 m^3/s) on basis of slope-area measurement of peak flow; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,740 ft^3/s (49.3 m^3/s) Feb. 20, 0300 hours, gage height, 5.80 ft (1.768 m), base discharge, 1,500 ft^3/s (42 m^3/s); minimum daily, 0.10 ft^3/s (0.003 m^3/s) Oct. 17-20, Oct. 25 to Nov. 2, Nov. 6, July 11, 15-21, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.10	2.0	1.0	4.4	3.0	46	40	1.0	.50	.30	.20
2	.20	.10	2.0	1.0	3.6	3.0	47	20	1.0	.50	.30	.20
3	.20	.20	2.0	1.0	3.6	3.0	48	10	.80	.40	.20	.20
4	.20	.20	2.5	1.0	3.9	2.0	57	10	.50	.30	.20	.20
5	.20	.20	4.0	1.0	3.3	3.0	59	60	.40	.30	.20	.20
6	.20	.10	3.0	1.0	3.5	2.0	60	42	.40	.20	.20	.20
7	.20	.50	2.8	2.0	3.5	2.0	30	44	.40	.30	.20	.20
8	.20	1.8	2.5	2.0	3.0	3.0	10	58	.40	.40	.20	.60
9	.20	1.7	3.3	2.0	2.0	3.0	5.0	41	.40	.20	.30	116
10	.20	1.0	3.6	2.6	2.0	3.0	5.0	30	.40	.20	.20	120
11	.20	.50	2.5	4.2	2.0	100	5.0	10	.40	.10	.20	20
12	.30	.30	2.2	3.8	2.0	80	5.0	10	.40	.20	.20	5.0
13	.20	.20	2.0	4.2	2.0	60	5.0	5.0	.30	.30	.20	2.0
14	.20	.20	2.0	5.1	14	30	5.0	5.0	.30	.20	.20	.50
15	.20	.30	1.0	7.3	138	10	5.0	3.0	.30	.10	.30	.30
16	.20	.30	1.0	5.5	138	5.0	10	5.0	.30	.10	.20	.30
17	.10	.40	1.0	5.0	93	3.0	25	5.0	.30	.10	.20	.30
18	.10	.40	1.0	5.0	131	3.0	74	3.0	.30	.10	.20	.20
19	.10	.30	1.0	5.0	264	2.0	86	2.0	.30	.10	.20	.20
20	.10	.50	1.0	5.9	700	3.0	104	2.0	.30	.10	.20	.20
21	3.8	.60	2.0	6.0	193	2.0	105	2.0	.30	.10	.20	.20
22	.40	.60	2.0	5.0	115	2.0	108	2.0	.30	.20	3.5	.20
23	.20	.80	2.5	4.0	116	3.0	120	2.0	.20	.20	.30	.20
24	.20	.80	2.0	3.0	110	2.0	110	2.0	.30	.20	.30	.20
25	.10	1.3	1.0	3.0	70	3.0	110	2.0	.20	.20	.50	.20
26	.10	1.4	1.0	3.0	40	3.0	110	2.0	.20	.20	.30	.20
27	.10	1.4	2.0	2.0	10	110	100	2.0	.20	.20	.20	.20
28	.10	2.4	2.0	2.1	5.0	70	100	2.0	.20	.10	.20	.20
29	.10	2.0	1.0	4.0	5.0	50	80	1.0	.20	.20	.20	.20
30	.10	2.0	1.0	8.8	---	20	60	1.0	.40	.20	.20	.20
31	.10	---	1.0	5.9	---	90	---	1.0	---	.20	.20	---
TOTAL	9.00	22.60	59.9	112.4	2180.8	678.0	1694.0	424.0	11.40	6.70	10.50	269.00
MEAN	.29	.75	1.93	3.63	75.2	21.9	56.5	13.7	.38	.22	.34	8.97
MAX	3.8	2.4	4.0	8.8	700	110	120	60	1.0	.50	3.5	120
MIN	.10	.10	1.0	1.0	2.0	2.0	5.0	1.0	.20	.10	.20	.20
AC-FT	18	45	119	223	4330	1340	3360	841	23	13	21	534

CAL YR 1979 TOTAL 2625.1 MEAN 7.19 AC-FT 5206
WTR YR 1980 TOTAL 5478.30 MEAN 15.0 MAX 700 MIN .10 AC-FT 10870

NOTE.--No gage-height record Nov. 29 to Jan. 10, Feb. 22 to Apr. 1, Apr. 5 to May 5.

09396100 PUERCO RIVER NEAR CHAMBERS, AZ

LOCATION.--Lat 35°10'42", long 109°27'15", in SW¼NW¼ sec.35, T.21 N., R.27 E., Apache County, Hydrologic Unit 15020007, on upstream side of right abutment of Atchison, Topeka, and Santa Fe Railway Co. bridge, 1.5 mi (2.4 km) southwest of Chambers.

DRAINAGE AREA.--2,160 mi^2 (5,600 km^2), approximately.

PERIOD OF RECORD.--Water years 1971-72 (annual maximums only), January 1973 to current year (discharge above 500 ft^3/s or 14 m^3/s only).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,705 ft (1,738.9 m), from topographic map.

REMARKS.--Records poor. Only daily discharges above 500 ft^3/s (14 m^3/s) are published. Small diversions above station for irrigation and livestock. Red Lake, near the headwaters of Black Creek, was built in 1954, with a capacity of 9,700 acre-ft (12.0 hm^3), but capacity may have been reduced by silting.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft^3/s (504 m^3/s) Sept. 30, 1971, gage height, 9.65 ft (2.941 m); no flow observed on many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, (*) and peak discharges above base of 3,000 ft^3/s (85 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m)	Gage height (ft)	Gage height (m)
Feb. 15	0945	4,100	116	3.34	1.018
Feb. 20	0430	*9,620	272	6.10	1.859

No flow observed on several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	---		---					---
2				---	---		---					---
3				---	---		---					---
4				---	---		---					---
5				---	---		---					---
6				---	---		---					---
7				---	---		---					---
8				---	---		---					---
9				---	---		---					---
10				---	---		---					737
11				---	---		---					---
12			507	---	---		---					---
13			---	---	---		---					---
14			---	---	---		---					---
15			---	---	2780		---					---
16			---	---	1650		---					---
17			---	---	---		---					---
18			---	---	---		---					---
19			---	---	2470		---					---
20			---	---	4650		---					---
21			---	---	1080		---					---
22			---	---	702		---					---
23			---	---	---		---					---
24			---	---	---		667					---
25			---	---	---		---					---
26			---	---	---		---					---
27			---	---	---		---					---
28			---	---	---		---					---
29			---	---	---		---					---
30			946	---	---		---					---
31			1500	---	---		---					---
TOTAL			---	---	---		---					---
MEAN			---	---	---		---					---
MAX			---	---	---		---					---
MIN			---	---	---		---					---
AC-FT			---	---	---		---					---

09397300 LITTLE COLORADO RIVER NEAR JOSEPH CITY, AZ

LOCATION.--Lat 34°54'04", long 110°15'17", in NE¼SE¼ sec.6, T.17 N., R.20 E., Navajo County, Hydrologic Unit 15020008, on left bank (prior to Jan. 9, 1980, on right bank) just upstream from diversion dam, 5.4 mi (8.7 km) west of Holbrook, 5.7 mi (9.2 km) southeast of Joseph City, and 8.5 mi (13.7 km) downstream from Puerco River.

DRAINAGE AREA.--12,200 mi^2 (31,600 km^2), approximately.

PERIOD OF RECORD.--July 1973 to current year (daily discharge only for those days on which instantaneous discharge exceeds 500 ft^3/s or 14 m^3/s).

GAGE.--Water-stage recorder and concrete diversion dam. Datum of gage is 5,031.10 ft (1,533.479 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Jan. 9, 1980, on right bank at same datum.

REMARKS.--Records poor. Published record includes only those days when instantaneous discharge over the crest of the dam exceeds 500 ft^3/s (14 m^3/s). Diversions above station for irrigation of about 23,000 acres (93 km^2), diversions at dam on right bank of most low flows for irrigation of about 1,500 acres (6.07 km^2) in vicinity of Joseph City. Some regulation by reservoirs; combined capacity of principal reservoirs, about 83,000 acre-ft (100 hm^3).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,400 ft^3/s (719 m^3/s) Dec. 19, 1978 (corrected), gage height, 7.64 ft (2.329 m), from rating curve extended above 7,400 ft^3/s (210 m^3/s) on basis of slope-area measurement at gage height 6.82 ft (2.079 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of 60,000 ft^3/s (1,700 m^3/s) was determined for peak of Sept. 19, 1923, at Holbrook (see prior records for sta 09397000, Little Colorado River at Holbrook, for this peak and other peaks 1905-6, 1949-73).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, (*), (from rating curve extended above 5,900 ft^3/s or 167 m^3/s on basis of slope-area measurement at gage height 6.82 ft or 2.079 m) and peak discharges above base of 5,000 ft^3/s (142 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	Unknown	Unknown	---	Unknown	-----	Mar. 14	1545	6,350	180	5.63	1.716
Feb. 20	a1300	*12,600	357	b8.3	2.53	Mar. 23	1615	7,210	204	6.02	1.835

a About.
b Based on high-water mark at gage.

CORRECTIONS.--The date for the maximum discharge for water year 1979 is Dec. 19, 1978; the previously published date was incorrect.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	1200	425	286					---
2	---	---	---	---	---	425	252					---
3	---	---	---	---	---	372	394					---
4	---	---	---	---	---	466	---					---
5	---	---	---	---	---	520	320					---
6	---	---	---	---	---	383	383					---
7	---	---	---	---	---	---	278					---
8	---	1170	---	---	---	---	404					198
9	---	840	---	---	---	394	352					36
10	---	405	---	---	---	414	479					34
11	---	---	---	---	---	383	352					190
12	---	---	---	---	---	---	352					---
13	---	---	---	---	---	1110	492					---
14	---	---	---	---	---	924	341					---
15	---	---	---	---	5200	1010	490					---
16	---	---	---	---	6300	438	---					---
17	---	---	---	---	4500	383	---					---
18	---	---	---	---	2500	341	---					---
19	---	---	---	---	2800	223	---					---
20	---	---	---	---	7600	---	---					---
21	700	---	---	---	4940	---	---					---
22	200	---	---	---	3520	260	---					---
23	---	---	36	---	2440	763	---					---
24	---	---	---	---	1050	520	---					---
25	---	---	87	---	506	269	---					---
26	---	---	414	---	---	198	---					---
27	---	---	2190	---	---	269	---					---
28	---	---	1140	---	---	320	---					---
29	---	---	690	---	---	252	---					---
30	---	---	500	1200	---	---	---					---
31	---	---	---	2000	---	320	---					---
TOTAL	---	---	---	---	---	---	---					---
MEAN	---	---	---	---	---	---	---					---
MAX	---	---	---	---	---	---	---					---
MIN	---	---	---	---	---	---	---					---
AC-FT	---	---	---	---	---	---	---					---

NOTE.--No gage-height record Jan. 8 to Feb. 20.

09398300 BLUE RIDGE RESERVOIR NEAR PINE, AZ

LOCATION.--Lat 34°33'19", long 111°11'00", in NE¼SE¼ sec.33, T.14 N., R.11 E., Coconino County, Hydrologic Unit 15020008, in Coconino National Forest, on upstream side of left end of spillway structure of Blue Ridge Dam on East Clear Creek, at mouth of General Springs Canyon, 7.3 mi (11.7 km) east of Clints Well and 20 mi (32 km) northeast of Pine.

DRAINAGE AREA.--71.1 mi^2 (184.1 km^2).

PERIOD OF RECORD.--December 1964 to March 1965 (periodic elevations only), April 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,620 ft (2,018 m) National Geodetic Vertical Datum of 1929; gage readings have been reduced to elevations NGVD. Prior to Apr. 2, 1965, nonrecording-gage readings (at intervals of 3 to 8 days) at NGVD.

REMARKS.--Reservoir is formed by a concrete arch dam. Dam completed and storage began in December 1964. Total capacity is 19,500 acre-ft (24.0 hm^3) at elevation 6,735 ft (2,053 m), of which 15,000 acre-ft (18.5 hm^3) is usable storage below 6,720 ft (2,048 m)—crest of spillway. Drawdown below elevation 6,640 ft (2,024 m)—capacity, 2,120 acre-ft (2.61 hm^3)—for diversion to East Verde River is not permitted. Figures given herein represent total contents. Reservoir is used as a basin for pumping water to East Verde River. (See records for East Verde River diversion from East Clear Creek, near Pine.)

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 16,200 acre-ft (20.0 hm^3) Feb. 19, 1980, elevation, 6,724.12 ft (2,049.512 m); minimum since reservoir filled (April 1965), 1,850 acre-ft (2.28 hm^3) Dec. 12, 1967, elevation, 6,636.68 ft (2,022.860 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,200 acre-ft (20.0 hm^3) Feb. 19, elevation, 6,724.12 ft (2,049.512 m); minimum, about 2,000 acre-ft (2.47 hm^3) sometime between Jan. 1 and Jan. 14, based on streamflow records at Clear Creek below Willow Creek near Winslow and East Verde River diversion from East Clear Creek near Pine.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on surveys by Leeds, Hill, and Jewett, Inc., January 1962)

6,630	1,400	6,700	10,260
6,640	2,120	6,720	15,000
6,660	3,920	6,730	17,960
6,680	6,580		

RESERVOIR STORAGE, IN THOUSANDS OF ACRE FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6570	4700	3350	---	---	---	15160	15210	14900	12660	10510	8450
2	6510	4640	3290	---	---	---	15140	15190	14870	12590	10440	8390
3	6460	4580	3230	---	---	---	15170	15190	14800	12530	10380	8320
4	6390	4520	3170	---	5970	---	15200	15200	14740	12440	10330	8260
5	6340	4480	3110	---	6120	---	15230	15200	14660	12380	10260	8190
6	6280	4420	3050	---	6280	---	15300	15170	14580	12300	10200	8130
7	6220	4360	2990	---	6430	---	15350	15180	14500	12210	10180	8070
8	6160	4340	2920	---	6520	---	15320	15170	14420	12140	10110	8000
9	6100	4280	2870	---	6560	---	15360	15150	14330	12070	10040	7940
10	6040	4210	2820	---	6600	---	15440	15140	14250	11990	9980	7890
11	5990	4150	2770	---	6640	---	15350	15150	14160	11910	9930	7820
12	5930	4080	2720	---	6670	---	15280	15170	14080	11830	9860	7760
13	5860	4020	2660	---	6700	---	15250	15150	14000	11780	9800	7690
14	5800	3960	2610	---	8600	---	15300	15120	13930	11710	9740	7620
15	5740	3910	2550	---	12430	---	15410	15120	13820	11620	9660	7560
16	5680	3870	2500	---	13540	---	15450	15110	13750	11540	9600	7490
17	5620	3790	2440	---	14210	---	15440	15100	13670	11470	9530	7420
18	5580	3740	2380	---	15640	---	15440	15090	13590	11390	9450	7350
19	5520	3710	2320	---	16200	---	15450	15080	13510	11320	9360	7290
20	5460	3710	---	---	---	---	15460	15070	13440	11250	9300	7230
21	5400	3710	---	---	---	---	15470	15050	13360	11180	9230	7160
22	5340	3710	---	---	---	---	15330	15040	13280	11120	9170	7110
23	5280	3710	---	---	---	---	15250	15030	13240	11050	9100	7040
24	5220	3690	---	---	---	---	15200	15000	13160	10980	9030	6990
25	5150	3650	---	---	---	---	15160	15000	13090	10920	8960	6920
26	5090	3600	---	---	---	---	15190	14990	13010	10850	8890	6860
27	5020	3550	---	---	---	15120	15250	14980	12930	10790	8810	6800
28	4960	3510	---	---	---	15120	15280	14970	12860	10730	8740	6740
29	4890	3470	---	---	15200	15120	15280	14960	12790	10660	8670	6670
30	4820	3410	---	---	---	15140	15250	14940	12720	10640	8590	6610
31	4760	---	2040	4300	---	15150	---	14920	---	10560	8520	---
MAX	6570	4700	---	---	---	---	15470	15210	14900	12660	10510	8450
MIN	4760	3410	---	---	---	---	15140	14920	12720	10560	8520	6610
(†)	6666.99	6654.92	---	---	---	6720.58	6720.95	6719.70	6710.91	6701.44	6691.29	6680.21
(‡)	-1860	-1350	-1370	+2260	+10,900	-50	+100	-330	-2200	-2160	-2040	-1910

CAL YR 1979 .....‡ -10960
WTR YR 1980 .....‡ -10

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

NOTE.--No gage-height record on days when no values of contents are listed except at monthend, when contents are estimated.

09398500 CLEAR CREEK BELOW WILLOW CREEK, NEAR WINSLOW, AZ

LOCATION.--Lat 34°40'03", long 111°00'25", in SW¼SE¼ sec.19, T.15 N., R.13 E., Coconino County, Hydrologic Unit 15020008, in Sitgreaves National Forest, on right bank 2 mi (3 km) downstream from Willow Creek and 30 mi (48 km) southwest of Winslow.

DRAINAGE AREA.--321 mi^2 (831 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1947 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,957 ft (1,815.7 m), from Topographic Division by photogrammetry.

REMARKS.--Records good. Flow is partially controlled by Blue Ridge Reservoir (usable capacity, 15,000 acre-ft or 18.5 hm^3) about 20 mi (32 km) upstream. (See sta 09398300.) Diversion to East Verde River from Blue Ridge Reservoir. (See sta 09507580.)

AVERAGE DISCHARGE (unadjusted for diversion or storage).--33 years, 86.8 ft^3/s (2.458 m^3/s), 62,890 acre-ft/yr (77.5 hm^3/yr); median of yearly mean discharges, 66 ft^3/s (1.87 m^3/s), 47,800 acre-ft/yr (59 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft^3/s (558 m^3/s) Dec. 18, 1978, gage height, 22.32 ft (6.803 m), from rating curve extended above 6,000 ft^3/s (170 m^3/s); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 500 ft^3/s (14 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 31	0530	713	20.2	7.24	2.207
Feb. 15	1315	3,440	97.4	11.67	3.557
Feb. 19	0745	3,870	110	12.15	3.703
Feb. 20	0630	*8,140	230	15.78	4.810
Feb. 29	1500	717	20.3	7.19	2.192
Apr. 11	0445	1,680	47.6	9.48	2.890
Apr. 22	0115	2,090	59.2	10.11	3.082
Apr. 29	0415	1,270	36.0	8.63	2.630

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	351	656	232	720	21	.00	.00	.00
2	.00	.00	.00	.00	230	530	225	594	17	.00	.00	.00
3	.00	.00	.00	.00	179	479	175	494	14	.00	.00	.00
4	.00	.00	.00	.00	161	456	220	589	12	.00	.00	.00
5	.00	.00	.00	.00	160	368	296	787	9.3	.00	.00	.00
6	.00	.00	.00	.00	163	355	500	569	7.5	.00	.00	.00
7	.00	.00	.00	.00	162	356	868	585	6.0	.00	.00	.00
8	.00	.00	.00	.00	155	306	1010	661	5.2	.00	.00	.00
9	.00	.00	.00	.00	119	262	1020	605	4.4	.00	.00	.00
10	.00	.00	.00	.00	87	244	1250	515	3.7	.00	.00	.00
11	.00	.00	.00	.00	71	246	1450	409	3.3	.00	.00	.00
12	.00	.00	.00	.00	69	254	1070	556	2.4	.00	.00	.00
13	.00	.00	.00	.00	75	274	785	409	2.1	.00	.00	.00
14	.00	.00	.00	23	76	330	742	333	1.8	.00	.00	.00
15	.00	.00	.00	62	2340	439	992	336	1.3	.00	.00	.00
16	.00	.00	.00	104	1530	476	1310	294	.81	.00	.00	.00
17	.00	.00	.00	66	769	433	1400	276	.54	.00	.00	.00
18	.00	.00	.00	55	617	416	1400	268	.25	.00	.00	.00
19	.00	.00	.00	48	2900	404	1490	230	.08	.00	.00	.00
20	.00	.00	.00	46	4620	347	1540	199	.01	.00	.00	.00
21	.00	.00	.00	44	1480	356	1620	183	.00	.00	.00	.00
22	.00	.00	.00	36	870	452	1580	159	.00	.00	.00	.00
23	.00	.00	.00	28	744	408	1060	132	.00	.00	.00	.00
24	.00	.00	.00	17	590	338	648	106	.00	.00	.00	.00
25	.00	.00	.00	19	463	285	417	85	.00	.00	.00	.00
26	.00	.00	.00	22	406	240	397	67	.00	.00	.00	.00
27	.00	.00	.00	21	400	219	732	52	.00	.00	.00	.00
28	.00	.00	.00	22	471	203	969	43	.00	.00	.00	.00
29	.00	.00	.00	23	647	189	1100	36	.00	.00	.00	.00
30	.00	.00	.00	54	---	171	960	30	.00	.00	.00	.00
31	.00	---	.00	552	---	202	---	25	---	.00	.00	---
TOTAL	.00	.00	.00	1242.00	20905	10694	27458	10347	112.69	.00	.00	.00
MEAN	.000	.000	.000	40.1	721	345	915	334	3.76	.000	.000	.000
MAX	.00	.00	.00	552	4620	656	1620	787	21	.00	.00	.00
MIN	.00	.00	.00	.00	69	171	175	25	.00	.00	.00	.00
AC-FT	.00	.00	.00	2460	41470	21210	54460	20520	224	.00	.00	.00

CAL YR 1979 TOTAL 64016.15 MEAN 175 MAX 2190 MIN .00 AC-FT 127000
WTR YR 1980 TOTAL 70758.69 MEAN 193 MAX 4620 MIN .00 AC-FT 140300

09398500 CLEAR CREEK BELOW WILLOW CREEK, NEAR WINSLOW, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
FEB 22...	1700	8/6	52	4.5	27	5	6.3	2.8	.9	.1	.7

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
FEB 22...	22	2.3	1.3	.1	5.3	45	33	.06	.03	30	240

09399000 CLEAR CREEK NEAR WINSLOW, AZ

LOCATION.--Lat 34°58'10", long 110°38'40", in SE¼SE¼ sec.9, T.18 N., R.16 E., Navajo County, Hydrologic Unit 15020008, on right bank 10 ft (3.0 m) downstream from bridge on State Highway 99, 1.5 mi (2.4 km) upstream from mouth, and 5 mi (8 km) southeast of Winslow.

DRAINAGE AREA.--607 mi^2 (1,572 km^2).

PERIOD OF RECORD.--June to December 1906, January 1907 to January 1909 (gage heights only), March 1929 to February 1934, September 1935 to current year.

REVISED RECORDS.--WSP 859: 1929.

GAGE.--Water-stage recorder with diversion dam 1,200 ft (366 m) downstream as control. Datum of gage is 4,861.32 ft (1,481.730 m) National Geodetic Vertical Datum of 1929. See WSP 1713, 1733, or 1926 for history of changes prior to July 10, 1931.

REMARKS.--Records good except those for May 23 to June 10, which are fair. Records show discharge over dam and do not include flow in canal that diverts at dam or leakage through dam. Storage in and diversion from Blue Ridge Reservoir near Pine, about 50 mi (80 km) upstream, since December 1964. (See sta 09398300.)

AVERAGE DISCHARGE.--49 years (water years 1930-33, 1936-80), 84.4 ft^3/s (2.390 m^3/s), 61,150 acre-ft/yr (75.4 hm^3/yr); median of yearly mean discharges, 63 ft^3/s (1.78 m^3/s), 45,600 acre-ft/yr (56 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft^3/s (1,420 m^3/s) Apr. 4, 1929, gage height, 18.1 ft (5.52 m), present datum, from rating curve extended above 13,500 ft^3/s (382 m^3/s) on basis of velocity-area studies and verified by slope-area measurement at gage height 13.4 ft (4.08 m); no flow for many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floodmarks 3 ft (0.9 m) higher than stage of flood of Apr. 4, 1929, were found 1,850 ft (564 m) downstream from gage in 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 500 ft^3/s (14 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	0145	3,590	102	8.78	2.676
Feb. 19	1745	4,310	122	9.12	2.780
Feb. 20	1315	*10,800	306	a11.46	3.493
Mar. 1	1130	645	18.3	6.74	2.054
Apr. 11	2215	1,760	49.8	7.72	2.353
Apr. 22	1800	2,310	65.4	8.08	2.463
Aug. 24	0630	636	18.0	6.73	2.051

Minimum daily, 1.3 ft^3/s (0.037 m^3/s) July 19, 28.
a From peak indicator and high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	6.4	6.4	6.4	94	600	209	890	35	6.9	5.5	5.6
2	7.3	6.4	6.4	6.4	410	609	272	702	30	7.2	5.5	6.7
3	7.4	6.4	6.4	6.4	298	523	266	598	25	6.7	5.7	6.9
4	6.8	4.9	6.5	6.4	209	483	238	522	21	6.4	5.1	7.5
5	6.7	5.7	6.7	6.4	148	471	221	594	18	5.1	5.5	7.5
6	6.5	6.0	6.5	6.4	136	407	321	758	15	1.4	6.1	7.5
7	6.3	7.3	6.5	6.3	137	386	526	573	13	1.4	6.5	7.8
8	6.4	6.5	7.1	5.5	143	391	882	579	11	1.4	6.2	9.1
9	6.3	6.3	6.4	5.9	139	359	1010	642	9.0	1.4	5.7	8.5
10	6.4	6.4	6.5	4.7	125	298	1080	592	8.0	1.4	5.4	9.6
11	7.2	6.3	6.7	5.0	93	255	1390	523	6.7	1.4	6.5	10
12	6.7	7.0	6.4	5.0	64	257	1410	437	5.8	1.4	6.3	11
13	6.3	6.4	6.4	5.6	47	274	1040	544	5.6	3.1	6.2	11
14	6.0	6.8	6.4	5.2	47	286	787	449	4.9	2.1	14	10
15	7.3	7.4	6.7	5.5	205	349	782	396	6.0	1.7	7.5	11
16	7.8	7.4	6.7	6.3	2520	444	1120	379	6.3	1.6	6.4	10
17	7.5	7.1	7.0	6.2	1060	486	1420	342	5.7	1.5	6.2	11
18	6.2	6.4	6.4	7.2	641	462	1480	300	5.3	1.4	5.3	11
19	4.9	5.5	6.4	8.3	1890	448	1540	289	5.0	1.3	4.9	8.1
20	5.0	5.0	6.7	6.7	5800	436	1630	255	5.6	1.4	5.7	7.1
21	6.8	6.9	6.2	6.4	3130	405	1700	207	5.6	1.4	7.4	6.4
22	7.1	7.3	5.9	5.9	1380	387	1820	184	5.8	1.4	7.4	7.0
23	6.4	7.4	5.6	5.7	861	468	1410	160	4.5	1.4	7.5	8.2
24	6.4	7.4	6.3	6.2	683	453	996	134	4.5	1.4	149	8.4
25	6.6	7.1	6.4	6.0	564	397	655	112	5.8	1.4	17	8.5
26	7.2	5.0	6.6	5.0	480	350	483	96	5.5	1.4	15	8.5
27	8.1	6.3	6.4	4.8	427	291	446	81	6.0	1.4	9.7	8.6
28	7.4	6.3	6.4	4.9	418	258	761	68	6.9	1.3	7.3	8.5
29	6.5	6.4	6.4	5.0	463	224	988	58	7.0	3.4	5.6	8.5
30	6.4	6.4	6.4	6.7	---	219	1080	48	6.1	7.8	4.4	8.5
31	6.4	---	6.4	6.4	---	199	---	42	---	7.5	4.1	---
TOTAL	207.2	194.1	200.2	184.8	22612	11875	27963	11554	299.6	86.0	360.6	258.0
MEAN	6.68	6.47	6.46	5.96	780	383	932	373	9.99	2.77	11.6	8.60
MAX	8.1	7.4	7.1	8.3	5800	609	1820	890	35	7.8	149	11
MIN	4.9	4.9	5.6	4.7	47	199	209	42	4.5	1.3	4.1	5.6
AC-FT	411	385	397	367	44850	23550	55460	22920	594	171	715	512

CAL YR 1979 TOTAL 70650.12 MEAN 194 MAX 2410 MIN .00 AC-FT 140100
WTR YR 1980 TOTAL 75794.50 MEAN 207 MAX 5800 MIN 1.3 AC-FT 150300

LITTLE COLORADO RIVER BASIN

09401200 LITTLE COLORADO RIVER AT CAMERON, AZ
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 35°52'40", long 111°24'40", in NE¼SE¼ sec.22, T.29 N., R.9 E. (unsurveyed), Coconino County, Hydrologic Unit 15020016, at bridge on U.S. Highway 89 at Cameron, in Navajo Indian Reservation, 2.5 mi (4.0 km) upstream from Moenkopi Wash, 12 mi (19.3 km) upstream from gaging station 09402000 Little Colorado River near Cameron, and 57.5 mi (92.5 km) upstream from mouth.

DRAINAGE AREA.--24,000 mi^2 (62,000 km^2), approximately.

PERIOD OF RECORD.--October 1947 to September 1970, October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to September 1970.
WATER TEMPERATURE: October 1951 to September 1970.
SUSPENDED-SEDIMENT DISCHARGE: October 1947 to September 1970.

REMARKS.--Streamflow ungaged. No flow for extended periods each year.

COOPERATION.--Pesticide analysis performed by Environmental Protection Agency.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
03...	1100	.00	--	--	--	--	--	--	--	--	--
NOV											
14...	1245	33	908	8.6	6.0	23000	11.5	5000	9600	29	0
DEC											
12...	1030	3.7	630	8.4	1.5	--	--	--	--	200	20
JAN											
15...	1000	112	2450	8.5	5.0	18000	11.6	K600	5600	190	0
FEB											
13...	1130	E500	395	8.3	4.0	1400	--	K67	900	40	0
26...	1200	E4700	432	8.3	9.5	6000	10.6	K200	2100	28	0
MAR											
26...	1600	E800	340	8.3	10.5	3200	10.3	K100	K150	59	0
APR											
18...	1630	E600	300	8.2	18.5	3400	8.5	K130	K270	44	0
MAY											
06...	1230	E450	335	8.2	20.0	1100	--	K200	130	64	0
JUN											
06...	1400	1.3	1280	8.4	26.0	5.9	--	K2	K8	150	17
JUL											
02...	1000	.00	--	--	--	--	--	--	--	--	--
AUG											
06...	1000	.00	--	--	--	--	--	--	--	--	--
SEP											
04...	1200	.00	--	--	--	--	--	--	--	--	--

E Estimated.
K Based on non-ideal colony count.

LITTLE COLORADO RIVER BASIN

09401200 LITTLE COLORADO RIVER AT CAMERON, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	8.4	2.0	180	15	1.9	190	130	86	.9	15	499
DEC											
12...	57	14	89	2.7	3.8	160	170	12	.4	11	470
JAN											
15...	56	12	420	13	5.1	210	140	510	.5	9.7	1320
FEB											
13...	12	2.5	70	4.8	1.6	83	31	60	.2	9.1	235
26...	7.6	2.1	75	6.2	2.1	120	56	29	.5	13	252
MAR											
26...	18	3.5	54	3.1	1.8	89	37	40	.3	8.0	--
APR											
18...	13	2.9	45	2.9	2.0	75	28	28	.3	8.2	207
MAY											
06...	19	3.9	42	2.3	2.3	66	43	45	.3	8.2	189
JUN											
06...	43	9.6	160	5.7	4.4	130	78	200	.3	10	613
JUL											
02...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	544	.68	1.2	.15	.02	.18	17	.46	17	17	.48
DEC											
12...	468	.64	.63	--	--	--	--	--	--	--	--
JAN											
15...	1280	1.80	.49	.00	.00	.00	6.3	.30	6.3	6.0	.30
FEB											
13...	237	E.32	.10	.07	.01	.08	1.8	--	1.9	--	--
26...	259	.34	.29	.35	.15	.42	.85	.35	1.2	.70	.50
MAR											
26...	217	E.30	.17	.04	.04	.05	3.2	.62	3.2	2.5	.66
APR											
18...	173	E.28	.10	2.0	.01	2.4	2.4	.67	4.4	3.7	.68
MAY											
06...	204	E.26	.11	.11	.00	.13	1.9	1.0	2.0	1.0	1.0
JUN											
06...	584	.83	.01	.00	.01	.00	.52	.45	.52	.06	.46
JUL											
02...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--

E Estimated.

09401200 LITTLE COLORADO RIVER AT CAMERON, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
OCT										
03...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	--	0	0	†180	0	100	0	140	3	190000
DEC										
12...	60	--	--	--	--	--	--	--	--	--
JAN										
15...	--	--	--	--	--	--	--	--	--	--
FEB										
13...	--	0	0	30	10	20	0	70	2	30000
26...	--	1	0	†120	0	64	0	130	10	110000
MAR										
26...	--	--	--	--	--	--	--	--	--	--
APR										
18...	--	--	--	--	--	--	--	--	--	--
MAY										
06...	--	0	0	40	0	23	0	48	8	860
JUN										
06...	--	--	--	--	--	--	--	--	--	--
JUL										
02...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
04...	--	--	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRO-GEN, DIS-SOLVED (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)
OCT										
03...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	18	1.7	81	20.000	61	.120	40	5	†7600	200
DEC										
12...	--	--	--	--	--	--	--	--	--	--
JAN										
15...	6.8	.79	30	5.200	16	.060	--	--	--	--
FEB										
13...	2.0	--	8.9	1.700	5.2	--	9	3	†1400	200
26...	1.5	.79	6.7	3.700	11	.090	40	2	†5200	100
MAR										
26...	3.4	.83	15	3.300	10	.070	--	--	--	--
APR										
18...	35	.78	160	4.800	15	.070	--	--	--	--
MAY										
06...	2.1	1.1	9.2	1.600	4.9	.040	9	3	†1900	400
JUN										
06...	.55	.47	2.4	.060	.18	.050	--	--	--	--
JUL										
02...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
04...	--	--	--	--	--	--	--	--	--	--

† Value verified.

09401200 LITTLE COLORADO RIVER AT CAMERON, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)
OCT										
03...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	90	†210	1	8500	40	.6	.0	†240	0	0
DEC										
12...	40	--	--	--	--	--	--	--	--	--
JAN										
15...	--	--	--	--	--	--	--	--	--	--
FEB										
13...	60	3	8	1300	10	.1	.0	50	0	1
26...	140	130	0	5000	60	.2	.2	100	0	2
MAR										
26...	--	--	--	--	--	--	--	--	--	--
APR										
18...	--	--	--	--	--	--	--	--	--	--
MAY										
06...	40	45	0	1900	10	.1	.0	54	4	1
JUN										
06...	--	--	--	--	--	--	--	--	--	--
JUL										
02...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
04...	--	--	--	--	--	--	--	--	--	--

† Value verified.

DATE	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
03...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	1	1	0	560	0	--	--	44000	3920	98
DEC										
12...	--	--	--	--	--	--	--	--	--	--
JAN										
15...	--	--	--	--	--	55	--	27200	8230	91
FEB										
13...	0	1	0	130	40	11	--	3230	--	99
26...	0	0	0	390	190	--	--	19200	--	58
MAR										
26...	--	--	--	--	--	23	0	--	--	--
APR										
18...	--	--	--	--	--	53	--	--	--	--
MAY										
06...	0	0	0	170	50	22	600	7530	--	79
JUN										
06...	--	--	--	--	--	9.0	4500	--	--	--
JUL										
02...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
04...	--	--	--	--	--	--	--	--	--	--

09401200 LITTLE COLORADO RIVER AT CAMERON, AZ--Continued

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)
JUN									
06...	1400	<9.5	2.6	<0.5	1.8	0.3	1.2	7.1	1.2

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)
NOV												
14...	1245	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB												
13...	1150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAY												
06...	1250	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	LINDANE, TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PCB, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV												
14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB												
13...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
MAY												
06...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--

< Actual value is known to be less than value shown.
ND Material specifically analyzed for but not detected.

09401200 LITTLE COLORADO RIVER AT CAMERON, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO JUNE 1980

DATE	MAR 26,80		MAY 05,80		JUN 02,80	
TIME	1600		1240		1400	
TOTAL CELLS/ML	0		600		4560	
DIVERSITY: DIVISION	0.0		1.7		1.6	
.CLASS	0.0		2.0		1.6	
..ORDER	0.0		2.0		2.1	
...FAMILY	0.0		2.2		2.5	
....GENUS	0.0		2.2		3.1	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	26	1
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	260	6
....CRUCIGENIA	--	-	--	-	51	1
....DICTYOSPHAERIUM	--	-	--	-	260	6
....OOCYSTIS	--	-	--	-	100	2
....SELENASTRUM	--	-	--	-	77	2
....TREUBARIA	--	-	--	-	51	1
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	820*	18
....SCENEDESMUS	--	-	--	-	100	2
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	55	9	150	3
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	--	-	--	-	260	6
..PENNALES						
...FRAGILARIACEAE						
....FRAGILARIA	--	-	1104*	18	--	-
...NITZSCHIACEAE						
....NITZSCHIA	--	-	55	9	1400*	32
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...MALLOMONADACEAE						
....MALLOMONAS	--	-	55	9	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	26	1
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AMACYSTIS	--	-	--	-	230	5
..NOSTOCALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	540	12
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	2704*	45	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	55	9	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09401226 COAL MINE WASH TRIBUTARY NO. 1 NEAR KAYENTA, AZ

LOCATION.--Lat 36°31'54", long 110°24'02", Navajo County, Hydrologic Unit 15020018, in Navajo Indian Reservation, on left bank, 0.25 mi (0.40 km) upstream from Coal Mine Wash and 16 mi (26 km) southwest of Kayenta.

DRAINAGE AREA.--0.62 mi^2 (1.61 km^2), approximately.

PERIOD OF RECORD.--October 1977 to current year, October 1976 to September 1977 (annual maximum only), December 1973 to September 1975, records not equivalent because of control installation.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,560 ft (1,999 m), from topographic map. December 1973 to September 1975, recording gage and supplementary crest-stage gage located 30 ft (9.14 m) downstream at different datum.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 772 ft^3/s (21.9 m^3/s) July 10, 1975 (from slope-area measurement), gage height, 8.5 ft (2.6 m), approximately (flow went around ends of control). No flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from theoretical rating extended on basis of slope-area measurement of peak flow) and peak discharges above base of 5.0 ft^3/s (0.14 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 7	1400	50.1	1.42	3.15	0.960
May 8	0700	10.9	0.31	2.03	0.619
Aug. 23	a2100	5.1	0.14	1.67	0.509
Sept. 8	a1200	*270	7.65	6.19	1.887
Sept. 9	a1700	Unknown	----	Unknown	-----

No flow for most of year.
a About

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	1.3	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.42	.00	.00	.00	14
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	14
10	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	5.0
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.06	.00	.00	.07	.05	.00	.00	1.72	.00	.00	.06	33.00
MEAN	.002	.000	.000	.002	.002	.000	.000	.055	.000	.000	.002	1.10
MAX	.06	.00	.00	.04	.05	.00	.00	1.3	.00	.00	.06	14
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.1	.00	.00	.1	.10	.00	.00	3.4	.00	.00	.1	65

CAL YR 1979 TOTAL 0.11 MEAN .000 MAX .06 MIN .00 AC-FT .2
WTR YR 1980 TOTAL 34.96 MEAN .096 MAX 14 MIN .00 AC-FT 69

NOTE.--No gage-height record Jan. 30 to Mar. 18, June 20 to July 15.

09401260 MOENKOPI WASH AT MOENKOPI, AZ

LOCATION.--Lat 36°06'18", long 111°12'04", in NW¼NE¼ sec.3, T.31 N., R.11 E. (unsurveyed), Coconino County, Hydrologic Unit 15020018, in Navajo Indian Reservation on left bank 100 ft (30 m) upstream from bridge on State Highway 264, 1.3 mi (2.1 km) southeast of Moenkopi, 2.5 mi (4.0 km) downstream from former gaging station 09401250, and 12.5 mi (20.1 km) downstream from Begashibito Wash.

DRAINAGE AREA.--1,660 mi^2 (4,300 km^2), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1976 to current year. Records for October 1973 to July 1976 at site 2.5 mi (4.0 km) upstream, not equivalent below 1.5 ft^3/s (0.042 m^3/s) due to channel losses.

GAGE.--Water-stage recorder. Altitude of gage is 4,610 ft (1,405 m), from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,420 ft^3/s (153 m^3/s) Sept. 25, 1976, gage height, 9.9 ft (3.02 m), from profile of floodmarks past gage, from rating curve extended above 140 ft^3/s (3.96 m^3/s) on basis of slope-area measurement of peak flow. No flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of 15,100 ft^3/s (428 m^3/s) occurred Aug. 4, 1929, at former gaging station site 3.5 mi (5.6 km) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,200 ft^3/s (34 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 15	0100	1,640	46.4	a6.73	2.051
Sept. 9	0230	1,570	44.5	6.66	2.030
Sept. 10	1900	*1,740	49.3	6.87	2.094

No flow for many days.
a From outside high-water mark.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.5	4.0	3.0	3.6	2.0	2.0	2.1	1.0	.00	.00	.00
2	.00	1.5	4.0	3.0	3.2	2.0	2.0	2.1	1.0	.00	.00	.00
3	.00	1.1	4.0	3.0	3.2	2.0	2.0	2.1	1.0	.00	2.7	.00
4	.00	.60	4.0	3.0	2.8	2.0	2.0	2.1	.40	.00	2.6	.00
5	.00	.60	4.0	3.0	2.4	2.0	2.0	2.1	.40	.00	.80	.00
6	.00	.70	4.0	3.0	2.8	2.0	2.0	2.0	.30	.00	.10	108
7	.00	1.1	4.0	3.0	4.0	2.0	2.0	2.0	.20	.00	.00	14
8	.00	11	4.0	3.0	3.6	2.0	2.0	2.0	.20	4.1	.00	88
9	.00	8.4	4.0	3.0	3.6	2.0	2.1	2.0	.10	3.5	.00	538
10	.00	3.2	4.0	3.0	3.2	2.0	2.4	2.0	.10	.00	.00	337
11	.00	1.8	4.0	3.0	3.6	2.0	2.8	2.0	.00	.00	.00	173
12	.00	2.1	3.6	3.0	3.6	2.0	2.1	2.0	.00	.00	.00	15
13	.00	2.4	3.2	3.0	4.6	2.0	2.1	2.0	.00	.00	.00	7.8
14	.00	2.4	3.0	3.0	3.2	2.0	2.1	2.0	.00	.00	7.1	1.8
15	.00	2.1	3.0	3.0	2.8	2.0	2.4	2.0	.00	.00	142	1.0
16	.70	2.1	3.0	3.0	2.4	2.0	2.4	2.0	.00	.00	8.4	1.0
17	.60	2.1	3.0	3.0	2.4	2.0	2.1	2.0	.00	.00	4.4	1.0
18	.50	2.4	3.0	3.0	3.2	2.0	2.1	1.0	.00	.00	.40	.80
19	.50	2.8	3.0	3.0	4.1	2.0	2.1	1.0	.00	.00	.40	.80
20	1.0	4.4	3.0	3.0	37	2.0	2.1	1.0	.00	.00	.40	.80
21	75	4.4	3.0	3.0	12	2.0	2.1	1.0	.00	.00	.40	.60
22	13	3.2	3.0	3.0	6.0	2.0	2.1	1.0	.00	.00	.40	.60
23	3.2	5.4	3.0	4.0	3.6	2.0	2.1	1.0	.00	.00	.40	.60
24	1.8	6.5	3.0	4.9	2.1	2.0	2.4	1.0	.00	.00	21	.40
25	1.5	6.5	3.0	6.0	1.8	2.0	3.2	1.0	.00	.00	11	.40
26	1.3	6.0	3.0	7.2	2.0	2.0	2.4	1.0	.00	.00	13	.40
27	1.5	6.0	4.0	5.4	2.0	2.0	2.1	1.0	.00	.00	5.2	.20
28	1.8	4.4	5.0	4.9	2.0	2.0	2.1	1.0	.00	.00	.00	.20
29	2.4	4.4	3.0	4.9	2.0	2.0	2.1	1.0	.00	.20	.00	.20
30	2.4	4.0	3.0	4.9	---	2.0	2.4	1.0	.00	.00	.00	.00
31	1.5	---	3.0	4.4	---	2.0	---	1.0	---	.00	.00	---
TOTAL	108.70	105.10	107.8	112.6	132.8	62.0	65.8	48.5	4.70	7.80	220.70	1291.60
MEAN	3.51	3.50	3.48	3.63	4.58	2.00	2.19	1.56	.16	.25	7.12	43.1
MAX	75	11	5.0	7.2	37	2.0	3.2	2.1	1.0	4.1	142	538
MIN	.00	.60	3.0	3.0	1.8	2.0	2.0	1.0	.00	.00	.00	.00
AC-FT	216	208	214	223	263	123	131	96	9.3	15	438	2560

CAL YR 1979 TOTAL 1557.20 MEAN 4.27 MAX 150 MIN .00 AC-FT 3090
WTR YR 1980 TOTAL 2268.10 MEAN 6.20 MAX 538 MIN .00 AC-FT 4500

NOTE.--No gage-height record Dec. 14 to Jan. 23, Feb. 25 to Apr. 8, May 6 to Aug. 14.

09401260 MOENKOPI WASH AT MOENKOPI, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1973 to September 1978.
WATER TEMPERATURES: October 1973 to September 1978.
SUSPENDED-SEDIMENT DISCHARGE: October 1973 to December 1979 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 262,000 mg/L Sept. 25, 1976; minimum daily, no flow on many days.
SEDIMENT LOADS: Maximum daily, 1,600,000 tons (1,450,000 tonnes) Sept. 25, 1976; minimum daily, 0 ton (0 tonne) on many days.

EXTREMES FOR PERIOD OCTOBER - DECEMBER 1979.--
SEDIMENT CONCENTRATIONS: Maximum daily, 70,000 mg/L Oct. 21; minimum daily, no flow on many days.
SEDIMENT LOADS: Maximum daily, 15,700 tons (14,200 tonnes) Oct. 21; minimum daily, 0 ton (0 tonne) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
NOV									
14...	1600	.60	790	8.3	7.0	9.6	200	21	59
DEC									
12...	1030	3.7	650	8.4	1.5	--	200	20	57
JAN									
15...	1400	3.0	850	8.7	8.0	--	190	0	54
AUG									
18...	1400	.42	2475	8.2	27.0	--	1400	1400	450

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	PUTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV									
14...	13	95	2.9	4.8	180	220	12	.4	10
DEC									
12...	14	89	2.7	3.8	180	170	12	.4	11
JAN									
15...	13	120	3.8	4.5	190	220	12	.5	9.4
AUG									
18...	74	110	1.3	12	67	1600	11	.6	6.8

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)
NOV								
14...	527	526	.72	80	90	.72	.00	.00
DEC								
12...	470	468	.64	60	40	.63	.00	.00
JAN								
15...	541	549	.74	70	50	.28	.00	.00
AUG								
18...	2390	2310	3.25	120	40	1.2	.00	.00

09401260 MOENKOPI WASH AT MOENKOPI, AZ--Continued

SUSPENDED-SEDIMENT, FOR PERIOD OCTOBER 1979 TO DECEMBER 1979

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER	
1	0	.00	329	1.3	227	2.5
2	0	.00	338	1.4	388	4.2
3	0	.00	265	.79	330	3.6
4	0	.00	241	.59	356	3.8
5	0	.00	251	.41	280	3.0
6	0	.00	482	.91	478	5.2
7	0	.00	500	1.5	228	2.5
8	0	.00	12700	362	107	1.2
9	0	.00	2250	51	246	2.7
10	0	.00	2330	20	368	4.0
11	0	.00	420	2.0	169	1.8
12	0	.00	462	2.6	229	2.2
13	0	.00	326	2.1	167	1.4
14	0	.00	291	1.9	158	1.3
15	0	.00	292	1.7	188	1.5
16	30	.06	337	1.9	178	1.4
17	30	.05	250	1.4	233	1.9
18	32	.04	217	1.4	312	2.5
19	45	.06	142	1.1	206	1.7
20	46	.12	766	9.1	148	1.2
21	70000	15700	470	5.6	226	1.8
22	58800	2250	430	3.7	384	3.1
23	7260	63	315	4.6	226	1.8
24	6020	29	360	6.3	382	3.1
25	1240	5.0	431	7.6	190	1.5
26	482	1.7	146	2.4	374	3.0
27	388	1.6	202	3.3	528	5.7
28	519	2.5	132	1.6	1160	16
29	410	2.7	132	1.6	367	3.0
30	514	3.3	102	1.1	326	2.6
31	493	2.0	---	---	366	3.0
TOTAL	---	18061.13	---	502.70	---	94.2

TOTAL LOAD FOR PERIOD: 18658.03 TONS

09402000 LITTLE COLORADO RIVER NEAR CAMERON, AZ

LOCATION.--Lat 35°55'35", long 111°34'00", in NW¼ sec.5, T.29 N., R.8 E. (unsurveyed), Coconino County, Hydrologic Unit 15020016, in Navajo Indian Reservation, on left bank 3 mi (5 km) downstream from Coconino damsite, 9.5 mi (15.3 km) downstream from Moenkopi Wash, 9.5 mi (15.3 km) northwest of Cameron, and 45 mi (72 km) upstream from mouth.

DRAINAGE AREA.--26,500 mi^2 (68,600 km^2), approximately.

PERIOD OF RECORD.--June 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,979.2 ft (1,212.86 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods of no gage-height record, which are fair. Diversions above station for irrigation of about 32,000 acres (130 km^2). Some regulation by reservoirs above station (combined capacity of principal reservoirs, about 127,000 acre-ft or 157 hm^3).

AVERAGE DISCHARGE.--33 years, 240 ft^3/s (6.797 m^3/s), 173,900 acre-ft/yr (214 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft^3/s (705 m^3/s) Jan. 21, 1952, gage height, 20.7 ft (6.31 m); no flow at times in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of about 120,000 ft^3/s (3,400 m^3/s) occurred on Sept. 19 or 20, 1923 (corrected), based on discharge at Grand Falls.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 4,000 ft^3/s (113 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 20	0330	*12,400	351	14.45	4.404
Feb. 22	1830	10,100	286	13.07	3.984
Aug. 14	1800	4,040	114	8.52	2.597

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	77	1240	900	545	1640	18	.00	.00	8.6
2	.00	.00	.00	51	1230	900	638	1640	11	3.1	1.4	2.6
3	.00	.00	.00	30	1160	1000	545	1430	8.2	.20	.40	.70
4	.00	.00	.00	22	1090	1000	620	1240	5.7	.00	.20	.20
5	.00	.00	.00	14	638	700	626	1040	3.0	.00	.00	.00
6	.00	.00	.00	7.8	470	600	590	842	1.0	.00	.00	29
7	.00	.00	.00	5.4	338	500	470	1010	.50	.00	.00	37
8	.00	28	.00	5.7	288	500	830	1180	.20	.00	.00	14
9	.00	24	.00	8.2	258	450	1660	955	.00	.00	.00	570
10	.00	16	.00	8.2	242	450	2150	902	.00	.00	.00	662
11	.00	379	.00	23	226	400	2200	902	.00	.00	.00	1290
12	.00	225	.00	21	223	350	2370	794	.00	.00	.00	1040
13	.00	110	.00	13	183	350	2730	710	.00	.00	.00	830
14	.00	55	.00	7.8	154	400	2500	555	.00	.00	733	220
15	.00	35	.00	28	143	500	2200	638	.00	.00	229	80
16	.00	26	.00	80	131	600	2000	515	.00	.00	54	40
17	.00	17	.00	69	2440	700	2000	395	.00	.00	9.0	20
18	.00	11	.00	156	5360	900	2500	375	.00	.00	.60	15
19	.00	7.0	.00	360	8600	1200	2720	338	.00	.00	.00	10
20	.00	4.0	.00	116	9290	1100	2760	274	.00	.00	.00	6.0
21	30	2.4	.00	687	7220	1100	2760	250	.00	.00	.00	4.0
22	84	1.8	.00	1020	8420	1000	2780	242	.00	.00	.00	2.0
23	12	1.1	.00	564	5000	1000	2770	174	.00	.00	.00	.60
24	4.0	.30	.00	237	2000	1000	2820	152	.00	.00	357	.20
25	3.8	.10	.00	162	1500	1060	2250	126	.00	.00	98	.00
26	.60	.00	.00	121	1000	1050	1660	108	.00	.00	153	.00
27	.00	.10	.00	78	800	878	1240	65	.00	.00	402	.00
28	.00	.10	6.7	65	700	710	969	31	.00	.00	174	.00
29	.00	.00	1.1	46	800	650	974	20	.00	.00	88	.00
30	.00	.00	64	37	---	560	1670	28	.00	3.7	35	.00
31	.00	---	124	44	---	545	---	27	---	.10	20	---
TOTAL	134.40	942.90	195.80	4164.1	61144	23053	52547	18578	47.60	7.10	2354.60	4881.90
MEAN	4.34	31.4	6.32	134	2108	744	1752	599	1.59	.23	76.0	163
MAX	84	379	124	1020	9290	1200	2820	1640	18	3.7	733	1290
MIN	.00	.00	.00	5.4	131	350	470	20	.00	.00	.00	.00
AC-FT	267	1870	388	8260	121300	45730	104200	36850	94	14	4670	9680

CAL YR 1979 TOTAL 165423.60 MEAN 453 MAX 3960 MIN .00 AC-FT 328100
WTR YR 1980 TOTAL 168050.40 MEAN 459 MAX 9290 MIN .00 AC-FT 333300

NOTE.--No gage-height record Feb. 22 to Mar. 25.

09402500 COLORADO RIVER NEAR GRAND CANYON, AZ

LOCATION.--Lat 36°06'05", long 112°05'08", in sec.5, T.31 N., R.3 E. (unsurveyed), Coconino County, Hydrologic Unit 15010001, in Grand Canyon National Park, on left bank 0.2 mi (0.3 km) upstream from Kaibab Bridge, 0.4 mi (0.6 km) upstream from Bright Angel Creek, 4.5 mi (7.2 km) northeast of village of Grand Canyon, 26 mi (42 km) downstream from Little Colorado River, and 267 mi (430 km) upstream from Hoover Dam.

DRAINAGE AREA.--141,600 mi^2 (366,700 km^2) approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1922 to current year. Prior to 1944, published as "Colorado River at Bright Angel Creek, near Grand Canyon." Gage-height records collected 1.5 mi (2.4 km) downstream 1908-13, published in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder with supplementary water-stage recorder on right bank 700 ft (213 m) downstream (prior to Oct. 1, 1934, supplementary gage was the only gage). Datum of both gages is 2,418.7 ft (737.22 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those for period of no gage-height record, which are good. Flow regulated by Lake Powell, 104 mi (167 km) upstream, since Mar. 13, 1963. (See elsewhere in this report.) Many diversions above station for irrigation, municipal, and industrial uses.

AVERAGE DISCHARGE (unadjusted for storage in Lake Powell).--40 years (water years 1923-62), 16,930 ft^3/s (479.5 m^3/s), 12,260,000 acre-ft/yr (15,100 hm^3/yr); 16 years (water years 1965-80) 12,830 ft^3/s (363.3 m^3/s), 9,295,000 acre-ft/yr (11,500 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 127,000 ft^3/s (3,600 m^3/s) July 2, 1927, gage height, 29.25 ft (8.915 m); minimum, 700 ft^3/s (19.8 m^3/s) Dec. 28, 1924, gage height, -0.70 ft (-0.213 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1884, 300,000 ft^3/s (8,500 m^3/s) about July 8, 1884 (computed on basis of flood studies at Lees Ferry). Crest discharge of flood of June 19, 1921, was 220,000 ft^3/s (6,230 m^3/s), gage height, 37.5 ft (11.43 m) from floodmarks, from rating curve extended above 120,000 ft^3/s (3,400 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,000 ft^3/s (1,270 m^3/s) June 24, gage height, 19.60 ft (5.974 m); minimum daily, 1,400 ft^3/s (39.6 m^3/s) Jan. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8790	13900	16300	5810	13800	8860	15300	16400	19100	34900	25100	15400
2	9760	19200	16200	3050	15200	9300	16200	15300	12200	33700	24500	15500
3	13000	16000	14900	6780	11200	6220	15200	13300	19100	30200	24700	18600
4	11000	14400	14500	10000	7710	9000	11700	12600	19000	28300	22800	14900
5	9830	13100	13600	10600	10400	11500	13900	9870	20000	25600	22700	21000
6	10800	15800	9400	10800	13300	11000	9670	12200	21400	27600	22800	20100
7	8920	17900	13300	6820	12300	8390	10300	13600	22000	28200	22900	16300
8	4910	17300	12500	13500	9550	7740	16500	12300	20600	27600	23000	18100
9	11900	14800	10100	16100	12300	9020	18200	13200	21500	26300	19600	19500
10	12700	18600	7770	14600	15600	5430	14900	10400	26000	25000	25200	23300
11	15100	13800	19100	7900	13300	12300	18500	9330	26400	25100	23000	23100
12	15400	6550	17400	9720	13100	13600	18400	7990	26100	25300	23900	21300
13	13500	13600	17000	3670	10500	10200	16600	10600	25600	24800	24200	21300
14	9300	14300	15500	1400	12100	8860	23200	12100	31000	24000	24000	16200
15	4210	14600	14100	2400	13400	9600	19500	16100	26000	22800	24900	14100
16	5870	13300	7700	5500	14100	10800	19700	13000	24500	24700	23700	18300
17	5860	11700	6430	6000	11200	10700	17700	13800	28900	25000	21200	16800
18	7450	8230	8660	8600	11900	13500	17300	17500	33100	23400	21000	14300
19	7880	6930	10300	14100	20900	12700	18200	18200	26800	23200	21300	16800
20	7520	13200	10200	14000	20300	16500	11700	19800	25400	21800	20900	18200
21	3810	17900	10100	10600	20700	15400	9510	14000	18800	23300	21000	16900
22	4270	14900	10200	16100	22300	14000	14900	12400	7220	22100	16200	14500
23	11000	8720	5530	10600	26700	9860	17100	12600	14300	24100	20900	16100
24	15300	9340	6960	11100	23700	10300	20900	17000	32200	23000	21000	15800
25	14200	14400	8660	8200	17000	15000	20700	16800	25100	23200	19700	15400
26	9480	12500	3710	6580	16000	17500	19100	11400	26700	21300	20200	14300
27	9430	13700	5460	9320	11700	15900	15500	16200	34300	23100	15700	11800
28	6370	11300	11600	7430	11900	12000	12000	19500	34800	24500	19500	14800
29	7910	12900	13400	15200	9370	9860	17800	19500	35600	24400	20500	14400
30	18200	15200	8020	17800	---	6880	16200	20000	34100	25400	15700	17000
31	18300	---	3690	20100	---	6370	---	20500	---	25600	15800	---
TOTAL	311970	410070	342290	302380	421530	338310	486380	447490	737820	787500	667400	514100
MEAN	10060	13670	11040	9754	14540	10910	16210	14440	24590	25400	21530	17140
MAX	18300	19200	19100	20100	26700	17500	23200	20500	35600	34900	25200	23300
MIN	3810	6550	3690	1400	7710	5430	9510	7990	7220	21300	15700	11800
AC-FT	618800	813400	678900	599800	836100	671000	964700	887600	1463000	1562000	1324000	1020000

CAL YR 1979 TOTAL 4384370 MEAN 12010 MAX 23700 MIN 1720 AC-FT 8696000
WTR YR 1980 TOTAL 5767240 MEAN 15760 MAX 35600 MIN 1400 AC-FT 11440000

NOTE.--No gage-height record Aug. 1 to Sept. 30.

09402500 COLORADO RIVER NEAR GRAND CANYON, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1925 to November 1942, September 1943 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to March 1974.
WATER TEMPERATURES: October 1940 to October 1942, September 1943 to September 1976.
SUSPENDED-SEDIMENT DISCHARGE: October 1925 to November 1942, September 1943 to September 1972.

INSTRUMENTATION.--Water-temperature recorder from October 1952 to September 1976.

REMARKS.--Unpublished chemical analyses for period October 1930 to September 1940, daily specific conductance measurements for period October 1937 to November 1942, September 1943 to September 1964, and daily water temperatures for period October 1936 to September 1940, available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT											
04...	1330	15100	960	8.1	9.0	280	150	72	25	93	2.4
NOV											
09...	1300	18900	960	8.1	6.5	290	160	74	25	87	2.2
JAN											
07...	1410	6700	--	--	1.0	260	130	65	24	90	2.4
23...	0915	14200	1010	8.2	2.0	240	92	64	20	120	3.4
23...	1130	14300	1000	8.3	2.0	240	91	62	21	110	3.1
APR											
04...	1400	11400	1130	8.0	10.0	320	180	81	29	100	2.4
JUL											
17...	1500	26300	820	8.2	11.5	260	130	66	24	79	2.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
04...	4.1	130	240	80	.4	7.4	548	603	.75	.64	--
NOV											
09...	4.6	130	250	73	.3	7.7	625	603	.85	.65	--
JAN											
07...	4.0	130	190	81	.3	7.7	591	542	.80	.44	--
23...	4.1	150	210	81	.4	11	630	603	.86	.52	--
23...	3.4	150	210	82	.3	9.7	621	591	.84	.54	.02
APR											
04...	4.1	140	250	87	.3	8.8	676	646	.92	.28	--
JUL											
17...	3.6	130	200	57	.4	7.7	569	518	.77	.36	--

COLORADO RIVER MAIN STEM

09402500 COLORADO RIVER NEAR GRAND CANYON, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
OCT										
04...	--	--	--	--	--	--	--	--	--	--
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	.13	1.3	.24	1.3	.93	.37	1.8	.91	2.500	.010
APR										
04...	--	--	--	--	--	--	--	--	--	--
JUL										
17...	--	--	--	--	--	--	--	--	--	--

DATE	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
OCT										
04...	--	--	--	--	--	--	130	--	--	--
NOV										
09...	--	--	--	--	--	--	100	--	--	--
JAN										
07...	--	--	--	--	--	--	130	--	--	--
23...	.02	.06	--	--	--	--	130	--	--	--
23...	--	--	12	3	†1600	200	--	1	1	40
APR										
04...	--	--	--	--	--	--	100	--	--	--
JUL										
17...	--	--	--	--	--	--	90	--	--	--

† Value verified.

COLORADO RIVER MAIN STEM

09402500 COLORADO RIVER NEAR GRAND CANYON, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT										
04...	--	--	--	--	--	--	<10	--	--	--
NOV										
09...	--	--	--	--	--	--	<10	--	--	--
JAN										
07...	--	--	--	--	--	--	10	--	--	--
23...	--	--	--	--	--	--	30	--	--	--
23...	0	25	1	190	25	37000	20	160	0	1800
APR										
04...	--	--	--	--	--	--	<10	--	--	--
JUL										
17...	--	--	--	--	--	--	10	--	--	--

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
04...	--	--	--	--	--	--	--	--	--	--
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	40	.1	.0	5	3	0	0	340	20	32
APR										
04...	--	--	--	--	--	--	--	--	--	--
JUL										
17...	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09403600 KANAB CREEK NEAR KANAB, UTAH

LOCATION.--Lat 37°06'02", long 112°32'50", in NE¼NE¼SW¼ sec.5, T.43 S., R.6 W., Kane County, Hydrologic Unit 15010003, at upstream edge of left bridge pier on U.S. Highway 89, 300 ft (91 m) upstream from Tiny Canyon and 3.5 mi (5.6 km) north of Kanab.

DRAINAGE AREA.--198 mi^2 (513 km^2).

PERIOD OF RECORD.--July 1959 to September 1968 (annual maximum only). January 1979 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage, 5,060 ft (1,542 m) from topographic map. A crest-stage gage was in operation at this site from July 22, 1959 to Sept. 30, 1968 at different datum.

REMARKS.--Records poor. No diversion above station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft^3/s (30.0 m^3/s) Apr. 6, 1980, gage height, 2.61 ft (0.796 m), maximum gage height, 3.77 ft (1.14 m) Sept. 10, 1980; minimum discharge, 3.4 ft^3/s (0.10 m^3/s) Nov. 11, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge recorded by crest-stage gage 3,030 ft^3/s (85.5 m^3/s) Sept. 8, 1961, gage height, 19.80 ft (6.035 m) at different datum.

EXTREMES FOR CURRENT PERIOD.--January to September 1979: Maximum daily discharge during period, 190 ft^3/s (5.4 m^3/s) Mar. 28; minimum daily, 4.1 ft^3/s (0.12 m^3/s) several days in July.
Water year 1980: Maximum and peak discharges above base of 200 ft^3/s (5.66 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 18	2130	332	9.40	1.80	0.549
Apr. 6	2245	*1,060	30.0	2.61	0.796
Sept. 10	0530	716	20.3	*3.77	1.149

Minimum discharge, 3.4 ft^3/s (0.10 m^3/s) Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				8.6	8.0	14	82	10	8.8	6.2	4.2	5.8
2				8.6	8.3	13	82	10	8.5	6.2	4.2	5.8
3				8.6	8.3	13	82	10	8.2	6.2	4.2	5.8
4				8.6	8.3	12	82	10	7.8	6.2	4.2	6.0
5				8.6	8.3	13	82	10	7.8	6.2	4.2	6.0
6				8.6	8.3	14	82	10	8.2	6.2	4.4	6.0
7				8.6	8.3	16	82	10	8.5	6.0	4.4	6.0
8				8.6	8.3	17	87	9.2	8.5	5.8	4.4	6.0
9				8.6	8.8	20	96	9.2	7.8	5.4	4.4	6.0
10				8.6	9.1	24	88	8.8	8.5	5.3	4.4	6.0
11				8.6	9.6	28	88	8.8	8.5	5.2	4.4	6.0
12				8.6	10	29	90	8.5	8.2	5.2	7.8	6.0
13				8.6	11	29	95	8.5	7.8	5.1	5.8	6.0
14				8.6	11	29	103	8.2	8.5	5.0	5.4	6.0
15				8.6	12	29	118	8.2	8.5	5.0	6.8	6.0
16				8.6	13	29	166	8.2	8.5	4.8	6.8	6.0
17				8.6	16	28	135	8.2	8.5	4.8	6.8	6.0
18				8.6	15	28	105	8.2	8.5	4.8	6.8	6.0
19				8.6	17	28	70	8.2	8.4	4.8	6.8	6.0
20				8.6	14	29	66	8.2	7.8	4.8	6.8	6.0
21				8.6	16	29	35	8.5	7.4	4.8	6.2	6.0
22				8.6	14	30	33	8.2	7.2	4.8	6.2	6.0
23				8.6	13	32	33	8.5	7.2	4.8	6.2	6.0
24				8.6	13	33	23	8.5	7.2	4.1	5.8	6.3
25				8.6	15	36	12	8.5	7.2	4.1	5.8	6.6
26				8.6	14	50	12	8.2	7.2	4.1	5.8	6.6
27				8.0	12	120	11	16	7.2	4.1	5.8	6.6
28				8.0	13	190	11	13	6.9	4.1	5.8	6.6
29				8.0	---	178	11	8.5	6.5	4.1	5.8	6.6
30				8.0	---	129	11	8.5	6.2	4.1	5.8	6.6
31				8.0	---	87	---	8.8	---	4.2	5.8	---
TOTAL				263.6	322.6	1356	2073	285.6	236.0	156.5	172.2	183.3
MEAN				8.50	11.5	43.7	69.1	9.21	7.87	5.05	5.55	6.11
MAX				8.6	17	190	166	16	8.8	6.2	7.8	6.6
MIN				8.0	8.0	12	11	8.2	6.2	4.1	4.2	5.8

09403600 KANAB CREEK NEAR KANAB, UTAH--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	4.9	15	21	9.1	33	138	61	12	9.7	7.7	6.9
2	6.6	6.6	15	20	10	30	135	56	12	9.2	9.2	7.3
3	6.6	6.6	14	19	9.1	32	155	42	12	8.8	9.6	7.3
4	6.6	6.3	14	19	8.8	30	222	42	12	7.3	9.6	6.6
5	7.0	7.1	16	18	8.0	29	249	44	12	9.2	9.6	6.6
6	7.0	6.5	16	16	8.1	33	354	45	12	8.4	9.4	7.6
7	7.0	6.5	17	16	8.7	31	196	40	11	8.4	9.2	8.4
8	7.0	6.7	18	17	8.7	28	145	40	11	8.4	9.0	18
9	7.0	5.7	17	18	10	25	179	34	11	8.4	8.4	23
10	7.0	4.3	17	17	12	26	228	31	11	8.4	12	47
11	7.0	4.7	17	15	11	32	152	36	10	8.4	11	18
12	7.0	6.4	22	14	9.4	30	111	37	10	8.4	7.2	18
13	7.0	7.7	33	15	11	23	113	34	10	8.4	8.0	17
14	7.0	6.1	32	15	98	23	147	31	10	8.4	8.5	16
15	7.0	7.3	30	8.2	95	42	175	35	10	8.4	11	16
16	7.0	7.6	28	9.4	92	39	152	28	10	8.4	6.6	15
17	7.0	9.2	23	10	102	28	124	24	9.6	8.4	8.9	15
18	7.0	8.8	25	12	140	34	103	22	9.6	8.4	6.2	14
19	7.0	8.4	23	10	178	32	96	19	9.6	8.6	6.2	14
20	8.6	6.9	23	9.1	84	49	85	17	9.6	8.6	8.4	14
21	8.0	9.7	21	8.3	55	70	82	15	9.6	8.6	5.2	14
22	7.6	11	21	7.3	49	49	70	12	9.2	8.6	5.2	13
23	7.4	9.2	23	7.7	47	50	76	13	9.2	8.6	4.8	13
24	7.1	10	23	8.7	47	63	69	12	9.2	8.6	4.8	13
25	8.0	11	26	9.8	42	63	70	13	9.2	8.6	7.3	13
26	7.7	10	25	9.0	42	70	73	13	9.2	9.0	8.8	13
27	8.3	12	25	7.8	38	82	63	11	9.2	9.5	8.0	13
28	8.8	12	25	11	40	90	66	11	6.2	9.9	6.6	13
29	6.7	13	26	11	38	94	67	13	6.9	9.5	5.5	13
30	6.4	14	23	8.3	---	122	63	13	8.4	9.5	7.3	13
31	5.8	---	21	8.2	---	124	---	13	---	9.3	7.6	---
TOTAL	221.8	246.2	674	395.8	1308.9	1506	3958	857	300.7	270.3	246.8	426.7
MEAN	7.15	8.21	21.7	12.8	45.1	48.6	132	27.6	10.0	8.72	7.96	14.2
MAX	8.8	14	33	21	178	124	354	61	12	9.9	12	47
MIN	5.8	4.3	14	7.3	8.0	23	63	11	6.2	7.3	4.8	6.6
AC-FT	440	488	1340	785	2600	2990	7850	1700	596	536	490	846

CAL YR 1979 TOTAL 6190.8 MEAN 17.0 MAX 190 MIN 4.1 AC-FT 12280
WTR YR 1980 TOTAL 10412.2 MEAN 28.4 MAX 354 MIN 4.3 AC-FT 20650

09403780 KANAB CREEK NEAR FREDONIA, AZ

LOCATION.--Lat 36°51'50", long 112°34'45", in SE¼ sec.14, T.40 N., R.3 W. (unsurveyed), Coconino County, Hydrologic Unit 15010003, in Kaibab Indian Reservation, at Nagles Crossing, on left bank 0.2 mi (0.3 km) downstream from Johnson Wash and 6.5 mi (10.5 km) southwest of Fredonia.

DRAINAGE AREA.--1,085 mi^2 (2,810 km^2).

PERIOD OF RECORD.--October 1963 to September 1980 (discontinued).

REVISED RECORDS.--WRD Ariz. 1974: 1969.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,500 ft (1,372 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Diversions upstream for irrigation of about 1,400 acres (5.67 km^2) in Utah and 800 acres (3.24 km^2) in Arizona in 1967.

AVERAGE DISCHARGE.--17 years, 6.78 ft^3/s (0.192 m^3/s), 4,910 acre-ft/yr (6.05 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,630 ft^3/s (131 m^3/s) Aug. 18, 1970, gage height, 9.11 ft (2.777 m), inside, 9.7 ft (2.96 m), from profile past gage, from rating curve extended above 850 ft^3/s (24 m^3/s) on basis of slope-area measurement of peak flow; no flow for most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 300 ft^3/s (8.5 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 20	0500	*957	27.1	3.68	1.122
Apr. 7	0800	345	9.77	2.70	0.823
Aug. 14	1630	853	24.2	3.52	1.073
Sept. 10	0730	300	8.50	2.62	.799

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.60	15	25	19	.00	.38	.50	.00
2	.00	.00	.00	.00	.20	15	25	12	.00	.44	.00	.00
3	.00	.00	.00	.00	.00	15	25	4.0	.00	.18	.00	.00
4	.00	.00	.00	.00	.00	15	35	3.0	.00	.06	.00	.00
5	.00	.00	.00	.00	.00	15	84	4.0	.00	.00	.00	13
6	.00	.00	.00	.00	.00	15	131	5.0	.00	.00	.00	2.0
7	.00	.00	.00	.00	.00	15	178	10	.00	.77	.00	.00
8	.00	.00	.00	.00	.00	10	93	10	.00	6.8	.00	8.3
9	.00	.00	.00	.00	.00	10	104	9.8	.00	1.1	.00	105
10	.00	.00	.00	.00	.00	10	139	9.0	.00	.20	.00	216
11	.00	.00	.00	.00	.00	15	158	11	.00	.00	.00	53
12	.00	.00	.00	.00	.00	10	80	21	.00	.00	.00	4.0
13	.00	.00	.00	.00	.00	10	40	11	.00	.00	.00	.10
14	.00	.00	.00	.00	6.0	10	40	8.0	.00	.00	124	.00
15	.00	.00	.00	6.6	75	20	100	12	.00	.00	.90	.00
16	.00	.00	.00	.27	46	20	130	15	.00	.00	.00	.00
17	.00	.00	.00	.00	49	15	79	10	.00	.00	.00	.00
18	.00	.00	.00	9.7	78	15	72	8.0	.00	.00	.00	.00
19	.00	.00	.00	10	220	15	67	6.0	.00	.00	.00	.00
20	.00	.00	.00	1.2	512	25	58	5.0	.00	.00	.00	.00
21	.00	.00	.00	.00	244	40	43	4.0	.00	.00	.00	.00
22	.00	.00	.00	.00	60	30	32	3.0	.00	.00	.00	.00
23	.00	.00	.00	.00	20	35	21	2.0	.00	.00	.00	.00
24	.00	.00	.00	.00	20	35	27	1.0	.00	.00	32	.00
25	.00	.00	.00	.00	20	40	20	.00	.00	.00	11	.00
26	.00	.00	.00	.00	20	35	22	.00	.00	1.5	11	.00
27	.00	.00	.00	.00	20	35	25	.00	.00	1.2	.30	.00
28	.00	.00	.00	.00	20	30	18	.00	.00	.00	.00	.00
29	.00	.00	.00	20	20	30	20	.00	.00	.00	.00	.00
30	.00	.00	.00	22	---	30	32	.00	.00	.40	.00	.00
31	.00	---	.00	4.6	---	25	---	.00	---	.50	.00	---
TOTAL	.00	.00	.00	74.37	1430.80	655	1923	202.80	.00	13.53	179.70	401.40
MEAN	.000	.000	.000	2.40	49.3	21.1	64.1	6.54	.000	.44	5.80	13.4
MAX	.00	.00	.00	22	512	40	178	21	.00	6.8	124	216
MIN	.00	.00	.00	.00	.00	10	18	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	148	2840	1300	3810	402	.00	27	356	796

CAL YR 1979	TOTAL	5909.40	MEAN	16.2	MAX	425	MIN	.00	AC-FT	11720
WTR YR 1980	TOTAL	4880.60	MEAN	13.3	MAX	512	MIN	.00	AC-FT	9680

NOTE.--No gage-height record Feb. 21 to Apr. 3, May 3 to June 3, July 5 to Aug. 5.

09415000 VIRGIN RIVER AT LITTLEFIELD, AZ

LOCATION.--Lat 36°53'30", long 113°55'25", in SW¼SW¼ sec.4, T.40 N., R.15 W., Mohave County, Hydrologic Unit 15010010, on right bank 0.5 mi (0.8 km) downstream from Beaver Dam Wash, 0.4 mi (0.6 km) upstream from Littlefield, and 36 mi (58 km) upstream from waterline of Lake Mead at elevation 1,221 ft (372.2 m) National Geodetic Vertical Datum of 1929.

DRAINAGE AREA.--5,090 mi^2 (13,200 km^2), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.--WSP 959: 1932. WSP 979: 1930-31, 1933-37. WSP 1313: 1940 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,763.68 ft (537.570 m) National Geodetic Vertical Datum of 1929. Prior to May 28, 1933, nonrecording gage at site 300 ft (91 m) upstream and May 28, 1933, to Nov. 7, 1939, at same site, both at datum 2.53 ft (0.771 m) higher. Nov. 8, 1939, to Mar. 31, 1942, nonrecording gage at same site at datum 2.00 ft (0.610 m) higher. Apr. 1, 1942, to Sept. 30, 1970, water-stage recorder at same site at same datum. Oct. 1, 1970, to Aug. 7, 1979, at site 300 ft (91 m) upstream at same datum.

REMARKS.--Records poor. Diversion above station for irrigation of about 23,200 acres (93.9 km^2).

AVERAGE DISCHARGE.--51 years, 235 ft^3/s (6.656 m^3/s), 170,300 acre-ft/yr (210 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,200 ft^3/s (997 m^3/s) Dec. 6, 1966, gage height, 15.66 ft (4.773 m), site then in use, from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement of peak flow; minimum, 38 ft^3/s (1.08 m^3/s) May 1, 10, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 3,000 ft^3/s (85 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	2000	4,720	134	8.53	2.600
Feb. 15	0200	9,550	270	11.27	3.435
Feb. 20	1000	*10,380	294	11.69	3.563
Sept. 10	1000	7,380	209	10.10	3.078

Minimum daily discharge, 65 ft^3/s (1.84 m^3/s) Oct. 1-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	137	173	195	967	834	453	1710	767	200	98	85
2	65	143	176	207	810	779	447	1640	755	330	90	83
3	65	140	184	203	726	771	429	1590	767	250	180	80
4	65	140	219	187	633	803	418	1620	778	200	132	78
5	77	156	191	187	586	675	459	1850	773	160	98	82
6	73	149	199	199	502	675	580	1990	767	155	80	80
7	75	146	199	199	459	771	704	1990	738	180	78	80
8	75	159	199	187	423	1010	647	1950	698	310	78	601
9	75	203	203	191	342	1030	606	1920	650	240	78	908
10	71	211	203	240	293	1050	668	1780	640	205	78	3750
11	71	207	203	530	244	892	789	1660	630	180	78	937
12	77	207	195	640	227	756	726	1520	570	160	78	360
13	77	184	203	700	219	779	613	1370	520	140	78	250
14	98	175	195	1110	1960	741	613	1320	460	125	78	205
15	98	180	190	2100	7230	734	690	1610	430	112	95	175
16	95	180	190	540	4030	668	834	1460	390	105	103	145
17	90	175	185	298	4190	661	941	1520	350	98	88	135
18	93	180	185	953	5690	640	992	1580	320	92	80	130
19	88	175	185	1190	5990	633	1130	1590	310	90	78	119
20	88	180	180	515	8780	626	1320	1600	290	88	75	103
21	105	175	185	332	7000	620	1550	1630	275	85	75	123
22	128	170	190	293	3800	613	1700	1620	260	84	75	118
23	111	170	195	266	3000	586	1380	1440	250	84	75	116
24	111	175	200	244	2500	560	1010	1380	240	84	85	114
25	119	175	200	231	2200	573	834	1330	224	85	141	113
26	111	170	205	249	1780	541	1070	1170	209	88	428	120
27	113	170	207	240	1200	535	1400	991	177	98	205	120
28	113	173	207	240	925	522	1800	879	164	101	123	120
29	119	156	187	1810	859	509	1810	796	154	88	95	120
30	122	169	184	2730	---	477	1750	778	147	83	85	120
31	128	---	191	1330	---	471	---	769	---	85	83	---
TOTAL	2861	5130	6008	18536	67565	21535	28363	46053	13703	4385	3291	9570
MEAN	92.3	171	194	598	2330	695	945	1486	457	141	106	319
MAX	128	211	219	2730	8780	1050	1810	1990	778	330	428	3750
MIN	65	137	173	187	219	471	418	769	147	83	75	78
AC-FT	5670	10180	11920	36770	134000	42710	56260	91350	27180	8700	6530	18980

CAL YR 1979 TOTAL 153903 MEAN 422 MAX 2440 MIN 63 AC-FT 305300
WTR YR 1980 TOTAL 227000 MEAN 620 MAX 8780 MIN 65 AC-FT 450300

09415000 VIRGIN RIVER AT LITTLEFIELD, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1947 to current year.
CHEMICAL ANALYSES: July 1949 to September 1969, once-daily (composited); October 1969 to current year, monthly.
SPECIFIC CONDUCTANCE AND WATER TEMPERATURES: October 1947 to current year, once-daily.
BIOLOGICAL DATA: October 1977 to September 1979, twice-yearly.
MICROBIOLOGICAL DATA: November 1977 to October 1979, monthly.
SEDIMENT DATA: October 1947 to September 1968, once-daily, September 1977 to current year, monthly.

REMARKS.-Streamflow is not completely homogenous chemically from bank to bank. Flow adjacent to north bank is generally somewhat more dilute than average; monthly data collected during June 1975 to September 1976 indicate that specific conductance off north bank was 93 to 100 percent of stream-wide average (range of discharge, 60-230 ft^3/s). This doubtless affects specific conductance of daily samples, which are collected off north bank. Water temperature characteristically shows little or no variation from bank to bank. Much of day-to-day fluctuation in water temperature prior to August 1975 was due to measurement at different times of day (rather than at about the same time each day). Detailed sampling information for period since June 1975 is available from U.S. Geological Survey office, Carson City, Nevada.

EXTREMES MEASURED FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 4,650 micromhos Aug. 21, 1966; minimum, 685 micromhos May 12, 1973.
FECAL STREPTOCOCCI: Maximum, 46,000 colonies/100 mL (non-ideal colony count) Jan. 25, 1978; minimum, 110 colonies/100 mL Aug. 28, 1979.
WATER TEMPERATURES: Maximum, 33.5°C July 7, 1953; minimum, 2.0°C Jan. 4, 1949, Jan. 4, 1950, Jan. 4, 5, 1971.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum, 247,000 mg/L Aug. 14, 1964; minimum, 40 mg/L June 16, 20, 1962.

EXTREMES FOR CURRENT YEAR (MEASUREMENTS AT LEAST ONCE-DAILY).--
SPECIFIC CONDUCTANCE: Maximum, 3,920 micromhos Aug. 15; minimum, 732 micromhos May 9.
WATER TEMPERATURES: Maximum, 32.5°C July 22; minimum, 9.0°C on several days during January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
31...	1030	122	3280	7.5	16.0	9.1	280	1500	1300	950	340
NOV											
28...	1100	162	2910	7.8	11.5	--	--	--	1000	710	270
DEC											
27...	1300	213	2660	7.7	13.0	--	--	--	930	650	240
JAN											
30...	1100	2880	887	7.7	8.0	--	--	--	300	--	86
FEB											
28...	1100	871	1930	7.8	12.0	--	--	--	820	550	200
MAR											
27...	1000	531	1940	7.8	13.0	--	--	--	700	450	170
APR											
23...	0945	1370	904	7.7	11.5	--	--	--	360	--	95
MAY											
28...	1215	865	1110	7.8	23.0	--	--	--	420	220	110
JUN											
25...	0730	229	2320	7.8	20.0	9.4	--	--	870	640	230
JUL											
29...	0815	87	3290	7.8	24.0	7.4	--	--	1300	1000	350
AUG											
26...	1015	539	2530	7.7	23.0	7.5	--	--	1200	990	350
SEP											
25...	1000	103	3410	8.0	20.5	8.0	--	--	1400	1100	370

09415000 VIRGIN RIVER AT LITTLEFIELD, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT											
31...	110	320	5.9	29	290	990	410	.9	21	2200	--
NOV											
26...	90	270	5.6	24	290	820	360	.8	20	1960	2030
DEC											
27...	80	230	5.5	21	280	710	330	.8	20	1790	--
JAN											
30...	21	72	1.8	7.1	--	250	80	.3	14	591	--
FEB											
28...	77	140	2.1	13	270	690	140	.5	17	1450	1490
MAR											
27...	66	150	2.5	13	250	590	180	.5	19	1400	1540
APR											
23...	29	49	1.1	6.1	--	200	62	.3	13	601	--
MAY											
28...	36	83	1.8	9.3	220	250	100	--	14	814	740
JUN											
25...	71	190	2.8	20	230	630	260	.7	18	1630	1560
JUL											
29...	110	270	3.2	28	290	1100	390	.9	13	2470	2430
AUG											
26...	70	160	2.0	17	1060	1100	180	.5	6.7	2030	3000
SEP											
25...	110	280	3.3	28	300	1100	440	.9	20	2540	2530

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)
OCT										
31...	2	--	--	--	--	--	--	--	--	--
NOV										
28...	2	--	--	--	--	--	--	--	--	--
DEC										
27...	2	--	--	--	--	--	--	--	--	--
JAN										
30...	0	.36	.020	.040	.040	.05	2.8	.54	2.80	2.2
FEB										
28...	1	--	--	--	--	--	--	--	--	--
MAR										
27...	1	--	--	--	--	--	--	--	--	--
APR										
23...	0	.49	.040	.010	.000	.08	2.6	.36	2.60	2.2
MAY										
28...	1	--	--	--	--	--	--	--	--	--
JUN										
25...	2	--	--	--	--	--	--	--	--	--
JUL										
29...	3	.76	.010	.010	.000	.01	1.2	.85	1.20	.35
AUG										
26...	2	--	--	--	--	--	--	--	--	--
SEP										
25...	3	--	--	--	--	--	--	--	--	--

09415000 VIRGIN RIVER AT LITTLEFIELD, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)
OCT										
31...	--	--	--	--	--	--	9	500	930	20
NOV										
28...	--	--	--	--	--	--	--	--	--	--
DEC										
27...	--	--	--	--	--	--	--	--	--	--
JAN										
30...	.58	3.2	14	5.20	16	.060	--	--	--	--
FEB										
28...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
23...	.38	3.1	14	1.30	4.0	.010	--	--	--	--
MAY										
28...	--	--	--	--	--	--	--	--	--	--
JUN										
25...	--	--	--	--	--	--	--	--	--	--
JUL										
29...	.65	2.0	8.7	.190	.58	.030	--	--	--	--
AUG										
26...	--	--	--	--	--	--	--	--	--	--
SEP										
25...	--	--	--	--	--	--	--	--	--	--

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT										
31...	8	4	90	3	20	.2	1	10	478	157
NOV										
28...	--	--	--	--	--	--	--	--	731	320
DEC										
27...	--	--	--	--	--	--	--	--	--	--
JAN										
30...	--	--	--	--	--	--	--	--	--	--
FEB										
28...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
23...	--	--	--	--	--	--	--	--	--	--
MAY										
28...	--	--	--	--	--	--	--	--	--	--
JUN										
25...	--	--	--	--	--	--	--	--	--	--
JUL										
29...	--	--	--	--	--	--	--	--	--	--
AUG										
26...	--	--	--	--	--	--	--	--	--	--
SEP										
25...	--	--	--	--	--	--	--	--	--	--

09415000 VIRGIN RIVER AT LITTLEFIELD, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
UNCF-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3330	3090	2870	2640	1640	1800	1940	1060	1240	2510	2910	3250
2	3350	3060	2870	2610	1770	1850	1970	912	1240	2020	3040	3250
3	3350	3040	2870	2590	1630	1940	2080	937	1240	2000	2540	3250
4	3350	3040	2770	2640	1890	1500	2100	867	1200	2430	2790	3130
5	3360	2980	2770	2640	2100	1730	2080	748	1200	2410	2950	3130
6	3350	3040	2770	2610	2100	1770	1920	770	1200	2540	3080	3130
7	3300	2960	2770	2630	2100	1440	1670	776	1200	2540	3040	3130
8	3360	2970	2740	2700	2080	1410	1670	797	1360	2200	3120	2470
9	3360	3030	2770	2700	2080	1410	1640	752	1360	2170	3000	3030
10	3360	2630	2780	2580	2160	1500	1570	839	1360	2450	3080	2900
11	3360	2660	2800	1610	2300	1490	1400	897	1440	2590	3000	2860
12	3360	2700	2770	1850	2300	1490	1500	977	1500	2700	3120	2900
13	3360	2710	2760	1110	2280	1490	1550	1010	1540	2760	3120	2940
14	3350	2750	2760	1230	1580	1740	1520	1030	1640	2770	3120	2990
15	3250	2870	2740	1510	913	1760	1450	870	1540	2740	3420	3030
16	3260	2790	2710	1510	913	1740	1240	959	1760	2880	3230	3150
17	3270	2840	2700	1830	977	1740	1200	863	1820	2980	3380	3170
18	2720	2810	2720	1480	824	1850	1080	770	1790	3050	3340	3260
19	3310	2740	2720	1100	955	1900	1030	779	1870	3070	3270	3330
20	3350	2730	2720	1620	1170	1900	1010	765	2000	3050	3180	3260
21	3340	2730	2690	1910	1340	1840	943	740	2000	3060	3180	3260
22	3140	2690	2620	2040	1340	1770	943	740	2040	3140	3180	3250
23	3120	2740	2530	2150	1450	1850	985	809	2120	3110	3250	3230
24	3150	2800	2620	2170	1620	1850	1080	1160	2200	3070	3180	3260
25	3170	2800	2670	2140	1740	1820	1080	1160	2260	3240	2020	3280
26	3160	2810	2580	2170	1780	1850	1010	1160	2300	3110	2020	3280
27	3140	2800	2590	2180	1780	1920	943	1160	2490	3110	2500	3260
28	3150	2840	2640	2160	1910	1850	923	1180	2490	3070	2470	3230
29	3710	2920	2640	1070	1840	1850	923	1230	2590	3120	3180	3250
30	3200	2840	2670	860	---	1940	985	1260	2650	3140	3290	3260
31	3150	---	2650	1230	---	1890	---	1240	---	3140	3290	---
MEAN	3270	2850	2720	1960	1680	1740	1390	942	1750	2780	3040	3140
MAX	3710	3090	2870	2700	2300	1940	2100	1260	2650	3240	3920	3330
MIN	2720	2630	2530	860	824	1410	923	732	1200	2000	2020	2470

WTR YR 1980 MEAN 2280 MAX 3920 MIN 732

09415000 VIRGIN RIVER AT LITTLEFIELD, AZ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	18.0	12.5	12.0	11.0	12.0	13.0	17.0	21.0	26.5	31.0	28.0
2	26.0	18.0	13.0	12.0	11.5	13.0	15.0	19.0	22.5	29.0	29.0	26.5
3	25.5	17.5	13.0	11.0	12.0	12.0	16.5	19.5	22.0	27.0	26.5	28.0
4	26.0	17.0	14.0	11.0	13.0	12.0	17.0	20.0	22.5	26.0	28.0	30.0
5	26.0	17.0	14.0	11.5	12.0	12.0	17.0	20.0	23.0	26.0	27.5	30.5
6	25.0	17.0	14.0	12.0	11.0	13.0	19.0	18.0	22.0	26.0	28.0	28.0
7	25.0	17.0	15.0	12.0	11.0	13.5	17.0	16.0	23.0	25.0	29.0	27.0
8	26.0	17.0	15.0	13.0	11.0	13.5	17.0	18.0	25.0	27.5	30.0	26.0
9	25.0	16.0	15.0	14.0	11.0	13.5	18.0	16.0	25.0	28.0	28.0	23.5
10	25.0	15.0	15.0	14.0	11.0	14.0	18.0	15.0	27.0	27.0	31.5	24.0
11	24.0	15.0	11.0	9.0	12.0	14.0	15.0	15.0	25.0	27.5	31.5	24.0
12	24.0	15.0	10.0	11.0	12.0	14.0	18.0	17.0	23.5	27.0	30.0	25.0
13	24.0	15.5	10.0	11.0	12.0	14.0	18.0	17.0	23.0	27.0	30.0	24.0
14	22.0	15.5	10.0	12.0	11.5	15.0	17.5	17.0	25.0	28.0	28.0	24.0
15	23.0	15.0	10.0	12.0	10.0	15.0	18.0	17.5	25.0	29.0	26.5	25.0
16	23.0	14.0	11.0	12.0	10.0	12.0	19.0	20.0	26.0	29.0	29.0	26.5
17	23.0	15.0	12.0	12.0	10.0	12.5	19.0	20.0	25.5	30.0	27.0	26.5
18	22.0	15.0	12.0	11.0	12.0	13.0	19.0	20.0	25.0	28.5	26.5	25.5
19	21.0	12.0	13.0	9.0	11.5	15.0	19.0	20.0	27.0	29.0	27.0	23.0
20	19.5	12.0	13.0	9.0	9.0	15.5	18.0	22.5	26.0	30.5	29.0	25.0
21	19.0	12.0	13.0	9.0	10.5	14.0	16.0	22.0	25.0	31.0	28.0	23.0
22	20.0	12.0	12.0	10.0	10.5	12.0	13.5	21.0	25.0	32.5	25.0	23.0
23	21.0	13.0	11.0	10.0	13.0	15.0	14.5	18.5	25.0	30.0	27.0	25.0
24	21.0	13.0	12.0	11.0	12.0	14.0	16.0	17.0	25.0	31.0	26.0	25.0
25	21.0	14.0	13.0	12.0	12.5	14.0	19.0	18.0	25.0	31.0	27.0	25.0
26	21.0	14.5	12.0	12.0	13.0	15.0	19.5	20.0	25.0	30.0	27.5	25.0
27	20.5	13.5	12.0	12.0	13.5	15.0	19.0	20.0	24.0	29.0	26.0	25.0
28	20.0	11.0	11.0	12.0	14.0	14.0	17.0	20.5	28.0	30.0	25.0	27.0
29	15.0	11.5	11.0	10.0	13.0	15.0	15.5	21.0	30.0	30.0	26.0	28.0
30	16.0	11.5	10.0	9.0	---	13.0	18.0	21.5	30.0	28.0	26.0	29.0
31	16.0	---	10.0	9.0	---	14.0	---	21.0	---	30.0	26.0	---
MEAN	22.5	14.5	12.0	11.0	11.5	13.5	17.0	19.0	25.0	28.5	28.0	26.0
MAX	26.0	18.0	15.0	14.0	14.0	15.5	19.5	22.5	30.0	32.5	31.5	30.5
MIN	15.0	11.0	10.0	9.0	9.0	12.0	13.0	15.0	21.0	25.0	25.0	23.0

WTR YR 1980 MEAN 19.0 MAX 32.5 MIN 9.0

09415230 VIRGIN RIVER ABOVE HALFWAY WASH NEAR RIVERSIDE, NV
(National stream-quality accounting network station)

LOCATION.--Lat 36°40'28", long 114°17'54", in NE¼SW¼NE¼ sec.32, T.14 S., R.69 E., Clark County, Hydrologic Unit 15010010, on left bank, 1.3 mi (2.1 km) upstream from Halfway Wash and 6.1 mi (9.8 km) southeast of Riverside, and 7.5 mi (12.1 km) upstream from waterline of Lake Mead at elevation 1,221 ft (372.2 m), National Geodetic Vertical Datum of 1929.

DRAINAGE AREA.--5,980 mi^2 (15,490 km^2), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,320 ft (402 m), from topographic map. Prior to Sept. 27, 1979, at site 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records poor. Diversion above station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 16,000 ft^3/s (453 m^3/s) Mar. 5, 1978, gage height, 6.60 ft (2.012 m); no flow several days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,270 ft^3/s (347 m^3/s) Feb. 20, gage height, 7.92 ft (2.414 m); minimum daily, 17 ft^3/s (0.48 m^3/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	138	182	220	464	765	455	1600	694	127	39	57
2	17	156	182	220	502	808	445	1580	646	153	61	61
3	22	165	193	230	592	744	425	1420	636	175	82	30
4	25	159	193	233	541	865	415	1420	627	153	127	41
5	25	169	190	233	583	780	450	1560	646	132	102	55
6	30	165	165	260	609	740	540	1990	627	122	74	42
7	31	156	175	229	541	724	680	1820	541	122	55	114
8	18	156	168	212	517	713	640	1730	549	141	52	465
9	25	165	182	216	558	800	610	1730	517	159	51	1240
10	29	208	162	172	494	860	660	1690	494	141	50	1340
11	31	193	153	320	575	770	870	1510	436	109	49	1070
12	34	175	153	509	494	710	800	1320	443	89	48	472
13	27	179	156	655	517	700	600	1010	390	94	48	384
14	40	175	150	684	648	670	610	975	365	78	48	365
15	38	175	150	2130	5160	650	680	1320	354	76	48	342
16	41	177	162	533	2190	640	800	1170	354	63	48	119
17	41	179	172	354	2410	620	930	1230	331	52	91	116
18	47	186	182	583	2850	610	1000	1390	288	60	76	85
19	49	205	186	1340	3350	600	1100	1420	288	35	67	78
20	52	205	175	541	7580	590	1300	1320	250	34	59	58
21	64	201	186	502	5980	580	1500	1350	225	41	54	63
22	80	205	205	509	4840	570	1650	1400	197	34	51	61
23	70	225	237	509	2290	560	1600	1320	182	31	48	64
24	74	201	237	566	1900	560	1440	1080	165	30	90	50
25	80	212	229	525	1420	550	1110	988	159	29	153	57
26	70	186	242	509	1460	540	1200	901	156	25	225	57
27	76	186	240	525	1210	530	1580	820	147	29	278	60
28	85	205	240	541	950	520	1690	724	132	32	216	85
29	94	216	240	1700	962	510	1790	734	144	26	165	64
30	105	208	238	3000	---	485	1690	665	130	27	76	52
31	118	---	235	1010	---	465	---	674	---	33	60	---
TOTAL	1560	5531	5960	19770	52187	20229	29260	39861	11113	2452	2691	7147
MEAN	50.3	184	192	638	1800	653	975	1286	370	79.1	86.8	238
MAX	118	225	242	3000	7580	865	1790	1990	694	175	278	1340
MIN	17	138	150	172	464	465	415	665	130	25	39	30
AC-FT	3090	10970	11820	39210	103500	40120	58040	79060	22040	4860	5340	14180

CAL YR 1979 TOTAL 132196.16 MEAN 362 MAX 2440 MIN .00 AC-FT 262200
WTR YR 1980 TOTAL 197761.00 MEAN 540 MAX 7580 MIN 17 AC-FT 392300

NOTE.--No gage-height record Mar. 9 to Apr. 23.

09415230 VIRGIN RIVER ABOVE HALFWAY WASH NEAR RIVERSIDE, NV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1977 to current year.
CHEMICAL ANALYSES, MICROBIOLOGICAL DATA, AND SEDIMENT DATA: January 1978 to current year, monthly.
SPECIFIC CONDUCTANCE AND WATER TEMPERATURES: December 1977 to April 1978, monthly; May 1978 to current year, once-daily.
BIOLOGICAL DATA: March 1978 to current year, monthly (seasonal).

REMARKS.--Daily specific-conductance and temperature data are collected approximately 5 mi (8 km) upstream, in NE¼SE¼ sec.12, T.14 S., R.69 E.

EXTREMES MEASURED FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 5,260 micromhos Sept. 16, 1978; minimum, 900 micromhos May 24, 1979.
PHYTOPLANKTON: Maximum, 5,000 cells/mL Sept. 25, 1980; minimum, 27 cells/mL Mar. 30, 1978.
FECAL STREPTOCOCCI: Maximum, 15,000 colonies/100 mL Aug. 26, 1980; minimum, 100 colonies/100 mL (non-ideal colony count) June 28, 1979.
WATER TEMPERATURES: Maximum, 35.5°C June 21, 27, 1980; minimum, 3.5°C Jan. 1, 1979.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum, 11,700 mg/L Aug. 26, 1980; minimum, 166 mg/L Sept. 27, 1978.

EXTREMES FOR CURRENT YEAR (MEASUREMENTS AT LEAST ONCE-DAILY).--
SPECIFIC CONDUCTANCE: Maximum, 4,430 micromhos Aug. 20; minimum, 924 micromhos May 9, 20-22.
WATER TEMPERATURES: Maximum, 35.5°C July 21, 27; minimum, 8.5°C Dec. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACU3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV												
01...	1300	155	3480	7.9	15.0	190	9.6	31	870	1600	1400	1200
28...	1330	188	3140	8.0	8.5	110	11.4	20	K50	1200	1200	1000
DEC												
27...	1000	237	2990	8.1	8.5	--	11.3	21	K280	2200	990	720
JAN												
30...	1430	3300	973	7.8	10.5	3600	10.0	340	K1200	6800	350	--
FEB												
28...	1330	936	2010	8.0	15.5	640	9.5	55	K150	1200	850	570
MAR												
27...	1300	523	2130	8.0	18.0	250	9.0	30	K130	740	830	560
APR												
23...	1300	1740	1000	7.9	14.0	1700	9.6	24	K230	1200	410	--
MAY												
28...	1600	798	1170	8.0	22.5	180	8.0	29	K85	280	470	220
JUN												
25...	1045	172	2420	7.9	26.5	130	7.7	14	1200	K380	870	670
JUL												
29...	1115	30	3590	8.0	26.5	140	7.4	11	2300	1400	1300	1200
AUG												
26...	1230	383	3390	7.8	30.0	900	6.6	290	7600	15000	1300	--
SEP												
25...	1400	65	3770	8.0	26.5	530	7.3	43	930	1400	1400	1200

K Based on non-ideal colony count.

09415230 VIRGIN RIVER ABOVE HALFWAY WASH NEAR RIVERSIDE, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV											
01...	330	130	330	3.9	29	230	1200	460	.7	22	2650
28...	310	110	300	3.7	19	220	970	400	.8	21	2330
DEC											
27...	240	94	280	3.9	23	270	840	370	.6	21	2090
JAN											
30...	100	24	65	1.5	8.2	160	270	70	.3	14	637
FEB											
28...	210	78	150	2.2	14	279	720	150	.5	15	1530
MAR											
27...	200	79	180	2.7	14	262	640	200	.5	19	1540
APR											
23...	110	34	58	1.2	6.7	--	250	73	.3	14	654
MAY											
28...	120	41	96	1.9	11	240	280	110	.1	15	887
JUN											
25...	220	79	220	3.2	21	220	680	280	.6	18	1740
JUL											
29...	300	130	330	4.0	30	160	1200	480	.8	15	2740
AUG											
26...	320	110	310	3.8	30	--	1100	430	.8	19	2660
SEP											
25...	370	120	330	3.8	27	240	1300	500	.8	23	2860

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)
NOV											
01...	2640	3.6	591	.35	.010	.36	.100	.070	.12	.74	.23
28...	2270	3.1	236	.46	.010	.45	--	--	.46	--	--
DEC											
27...	2030	2.8	315	.59	.040	.58	.180	.160	.22	.74	--
JAN											
30...	--	.87	10900	--	--	.44	.040	.010	.05	3.6	.25
FEB											
28...	1510	2.0	1580	.78	.020	.80	.100	.090	.12	1.4	.14
MAR											
27...	1490	2.0	712	.84	.010	.70	.090	.070	.11	.70	.70
APR											
23...	--	.89	3580	.33	.020	.28	.060	.080	.07	1.7	.43
MAY											
28...	822	1.2	--	--	--	.33	.150	.100	.18	.33	.35
JUN											
25...	1640	2.3	110	.29	.010	.31	.070	.090	.08	.84	.53
JUL											
29...	2570	3.7	28	.30	.010	.29	.000	.010	.00	.59	.47
AUG											
26...	--	3.6	7480	.61	.010	.62	.120	.070	.15	1.1	.34
SEP											
25...	2810	3.8	812	.39	.000	--	.040	.030	.05	1.1	.55

09415230 VIRGIN RIVER ABOVE HALFWAY WASH NEAR RIVERSIDE, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DISSOLV (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)
NOV											
01...	.84	.54	.30	1.2	.66	5.3	.250	.77	.000	11	6
28...	--	--	.61	--	1.1	--	.440	1.4	.060	--	--
DEC											
27...	.92	--	--	1.6	--	6.9	2.00	6.1	.020	9	6
JAN											
30...	3.60	3.3	.26	4.3	.70	19	7.60	23	.090	--	--
FEB											
28...	1.50	1.3	.23	2.3	1.0	10	1.00	3.1	.050	--	--
MAR											
27...	.79	.02	.77	1.6	1.5	7.3	.350	1.1	.030	10	6
APR											
23...	1.80	1.3	.51	2.2	.79	9.5	1.70	5.2	.020	--	--
MAY											
28...	.48	.03	.45	.83	.78	3.7	.330	1.0	.040	--	--
JUN											
25...	.91	.29	.62	1.2	.93	5.4	.150	.46	.020	8	5
JUL											
29...	.59	.11	.48	.90	.77	4.0	.190	.58	.020	--	--
AUG											
26...	1.20	.79	.41	1.6	1.0	8.1	5.50	17	.050	--	--
SEP											
25...	1.10	.52	.58	1.5	.58	6.6	.630	1.9	.020	10	6

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
NOV											
01...	300	300	1	0	10	0	4	0	10	2	4200
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
27...	300	200	0	1	10	0	2	0	2	1	3700
JAN											
30...	--	--	--	--	--	--	--	--	--	--	--
FEB											
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
27...	--	300	1	0	0	0	4	0	14	3	7800
APR											
23...	--	--	--	--	--	--	--	--	--	--	--
MAY											
28...	--	--	--	--	--	--	--	--	--	--	--
JUN											
25...	200	100	1	0	10	0	1	0	12	4	2900
JUL											
29...	--	--	--	--	--	--	--	--	--	--	--
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
25...	500	300	0	0	30	0	8	0	28	3	12000

09415230 VIRGIN RIVER ABOVE HALFWAY WASH NEAR RIVERSIDE, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
NOV											
01...	20	8	0	400	20	.3	.0	10	0	1	1
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
27...	20	6	0	190	10	.1	.1	6	2	1	0
JAN											
30...	--	--	--	--	--	--	--	--	--	--	--
FEB											
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
27...	50	10	0	310	20	.1	.0	13	2	5	4
APR											
23...	--	--	--	--	--	--	--	--	--	--	--
MAY											
28...	--	--	--	--	--	--	--	--	--	--	--
JUN											
25...	40	7	1	140	10	.0	.1	11	2	1	1
JUL											
29...	--	--	--	--	--	--	--	--	--	--	--
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
25...	90	12	1	610	30	2.3	2.0	25	2	2	1

DATE	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
NOV											
01...	0	0	40	0	--	--	3.4	--	--	1850	674
28...	--	--	--	--	8.8	--	--	1300	--	--	--
DEC											
27...	0	0	--	20	--	5.8	--	--	81	1750	1120
JAN											
30...	--	--	--	--	64	--	--	--	--	--	--
FEB											
28...	0	--	--	--	20	--	--	--	43	4530	11400
MAR											
27...	0	0	50	10	--	3.7	2.1	470	39	2220	3140
APR											
23...	--	--	--	--	57	--	--	--	52	8460	39700
MAY											
28...	0	--	--	--	3.9	--	--	140	43	1590	3430
JUN											
25...	0	0	80	20	--	4.9	.2	1500	40	770	358
JUL											
29...	--	--	--	--	5.1	--	--	4800	79	469	38
AUG											
26...	1	--	--	--	100	--	--	--	87	11700	12100
SEP											
25...	0	0	80	20	--	9.1	<5.4	5000	59	2100	369

< Actual value is known to be less than value shown.

09415230 VIRGIN RIVER ABOVE HALFWAY WASH NEAR RIVERSIDE, NV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3920	3330	3060	2860	1640	1890	2090	1070	1330	2610	3710	3700
2	4340	3320	3040	2710	1640	1960	2140	1110	1330	2430	3410	3700
3	4340	3300	2990	2770	1900	1960	2240	1110	1390	2480	3350	3700
4	4140	3320	3000	2810	1940	1700	2280	1070	1350	2260	3060	3700
5	4220	3280	2890	2800	1940	1790	2070	1040	1330	2480	3250	3850
6	4110	3250	2960	2820	1860	1930	2060	1040	1330	2610	3590	3850
7	3990	3280	2990	2790	1980	1520	1850	1210	1330	2610	3710	3260
8	4170	3250	2980	2790	1990	1600	1720	967	1370	2580	4000	2940
9	4110	3230	2930	2900	2040	1730	1760	924	1390	2430	4080	2940
10	4110	2920	2970	2890	1970	1670	1700	945	1490	2320	3530	3230
11	4330	2880	2980	2500	2260	1630	1610	945	1540	2650	4330	3030
12	4080	2940	3020	1900	2380	1460	1520	1040	1590	2910	4330	3030
13	4090	2990	2940	1440	2330	1500	1640	1120	1640	2910	4290	3130
14	3770	2980	2950	1390	2600	1800	1690	1160	1670	2910	4330	3130
15	3740	3090	2920	1270	1560	1860	1680	1040	1820	3090	4240	3030
16	3770	3040	2920	1350	1100	1860	1530	1110	1890	3040	3650	3130
17	3680	3040	2890	1900	1140	1890	1410	1040	1820	3230	3470	3280
18	3640	3040	2860	2060	980	1930	1320	990	1920	3290	4080	3390
19	3740	3060	2860	1220	1160	1900	1240	967	1960	3450	4160	3390
20	3740	2970	2870	1670	1500	1980	1140	924	2040	3400	4430	3510
21	3520	2880	2910	1900	1410	1960	1060	924	2130	3290	4330	3640
22	3480	2880	2990	2180	1360	1940	977	924	2150	3640	4330	3700
23	3330	2960	2720	2230	1510	1940	990	945	2200	3640	4330	3570
24	3310	2980	2790	2300	1790	1980	1090	1040	2330	3700	3650	3570
25	3440	2960	2830	2350	1820	1960	1220	1040	2350	3400	3250	3570
26	3410	3000	2810	2340	1770	1980	1140	1160	2470	3400	2600	3640
27	3410	2980	2780	2330	1830	2100	1030	1220	2500	3400	2540	3640
28	3360	2980	2760	2320	2000	2060	1000	1280	2560	3400	3060	3450
29	3440	3100	2790	2120	1910	2060	1040	1320	2670	3450	4160	3640
30	3410	3090	2850	1060	---	2140	1010	1390	2700	3400	4160	3640
31	3410	---	2870	1220	---	2120	---	1340	---	3450	3780	---
MEAN	3790	3080	2910	2170	1770	1860	1510	1080	1650	3030	3780	3450
MAX	4340	3330	3060	2900	2600	2140	2280	1390	2700	3700	4430	3850
MIN	3410	2880	2720	1060	980	1460	977	924	1330	2260	2540	2940

WTR YR 1980 MEAN 2530 MAX 4430 MIN 924

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	17.0	12.5	11.5	13.5	14.5	14.5	20.5	24.5	29.0	34.5	28.0
2	27.5	18.0	11.5	12.0	14.0	15.0	17.5	22.5	22.5	31.0	31.5	26.5
3	29.0	17.0	14.5	11.0	13.5	13.5	20.5	23.5	21.5	29.0	31.0	29.0
4	28.5	16.0	13.0	11.0	15.0	14.5	20.0	23.5	23.5	29.5	30.0	30.0
5	27.5	17.0	14.0	12.0	15.0	13.0	20.0	23.5	23.5	29.0	27.0	30.0
6	26.0	17.5	14.5	11.0	14.0	14.5	20.0	21.0	23.5	26.0	29.0	29.0
7	23.0	17.0	15.5	12.0	12.0	12.0	20.5	18.0	26.0	27.0	32.0	27.0
8	26.0	16.0	15.0	12.0	13.0	13.0	21.0	20.0	26.5	29.0	30.0	25.0
9	21.0	16.0	15.5	11.5	13.5	14.5	21.0	17.5	27.5	29.0	30.5	24.5
10	27.5	17.0	14.0	13.0	14.0	14.0	21.5	17.0	27.0	30.0	33.5	27.0
11	23.0	15.0	8.5	10.5	14.5	14.5	17.5	15.5	24.0	29.0	30.0	27.0
12	23.5	17.0	9.0	11.0	14.5	14.5	19.5	20.0	24.5	28.0	29.0	27.0
13	23.0	17.0	9.5	12.0	11.0	15.0	20.5	21.0	25.0	29.0	31.0	24.0
14	23.0	14.5	11.0	13.5	12.0	16.5	21.0	19.5	27.0	30.0	25.5	24.5
15	22.5	16.0	11.0	12.0	9.0	16.5	21.5	20.0	30.0	30.0	27.0	25.5
16	25.0	16.0	12.0	13.0	10.5	14.5	23.0	22.0	31.0	31.0	28.0	28.0
17	23.0	13.0	12.5	12.0	10.5	16.0	22.5	23.5	28.0	30.0	28.0	28.5
18	20.5	16.0	12.0	12.0	13.5	16.0	21.0	24.0	27.5	29.0	25.0	24.0
19	19.0	10.5	10.5	10.5	10.5	18.0	21.0	24.5	28.0	31.0	27.0	22.0
20	20.5	13.5	13.0	10.5	10.0	18.0	20.0	25.0	28.0	33.0	30.5	24.5
21	21.0	12.0	9.5	10.5	10.5	16.0	17.0	24.5	27.0	35.5	28.0	27.5
22	21.5	12.5	12.0	12.0	11.0	13.0	17.0	21.5	27.5	32.5	24.5	25.0
23	22.5	10.5	11.5	11.5	12.5	17.0	14.5	19.5	27.5	34.0	27.0	27.0
24	22.5	13.0	11.0	12.5	13.0	14.5	18.0	16.5	26.0	34.5	27.0	27.0
25	22.5	13.0	13.0	13.0	13.5	15.5	21.0	20.0	27.0	33.0	32.0	28.5
26	22.5	14.0	9.5	13.0	16.0	18.0	21.5	19.5	26.0	33.0	29.0	28.0
27	22.0	13.5	11.5	11.5	16.0	16.5	22.5	21.5	33.0	35.5	25.5	28.0
28	18.0	9.5	10.5	13.0	16.0	16.5	18.0	21.5	33.5	33.0	25.0	27.0
29	12.0	10.5	10.5	13.5	16.0	19.5	16.0	24.0	33.0	31.0	27.0	28.0
30	16.5	11.0	9.0	9.5	---	14.5	19.0	22.0	31.0	27.5	27.0	28.0
31	16.5	---	9.0	10.5	---	17.5	---	23.5	---	33.0	26.5	---
MEAN	23.0	14.5	12.0	12.0	13.0	15.5	19.5	21.0	27.0	30.5	28.5	27.0
MAX	29.0	18.0	15.5	13.5	16.0	19.5	23.0	25.0	33.5	35.5	34.5	30.0
MIN	12.0	9.5	8.5	9.5	9.0	12.0	14.5	15.5	21.5	26.0	24.5	22.0

WTR YR 1980 MEAN 20.5 MAX 35.5 MIN 8.5

09415230 VIRGIN RIVER ABOVE HALFWAY WASH NEAR RIVERSIDE, NV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 28,79		MAR 27,80		MAY 29,80		JUN 25,80		JUL 29,80		SEP 25,80	
TIME	1530		1300		1600		1045		1115		1400	
TOTAL CELLS/ML	1300		470		140		1500		4800		5000	
DIVERSITY: DIVISION	1.0		0.9		0.7		1.4		1.5		1.0	
.CLASS	1.0		0.9		0.7		1.4		1.5		1.0	
..ORDER	1.1		1.5		0.7		1.9		1.8		1.0	
...FAMILY	1.8		3.1		1.9		3.1		1.9		1.5	
....GENUS	1.8		3.5		1.9		3.2		1.9		1.5	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	35	1	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	27	6	--	-	55	4	130	3	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	--	-	--	-	240#	20	110	7	160	3	--	-
..TETRASPORALES												
...COCCOMYXACEAE												
....ELAKATOTHRIX	--	-	--	-	--	-	26	2	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CARTERIA	--	-	--	-	--	-	14	1	--	-	--	-
....CHLAMYDOMONAS	--	-	55	12	--	-	28	2	200	4	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	20	2	27	6	--	-	120	8	200	4	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-	69	1
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	10	1	14	3	29#	20	55	4	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	14	1	--	-	--	-
...CYMBELLACEAE												
....CYMBELLA	15	1	27	6	29#	20	97	7	--	-	--	-
...DIATOMACEAE												
....DIATOMA	--	-	--	-	--	-	14	1	--	-	--	-
....GEPHORA	*	0	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....SYNEDRA	25	2	14	3	--	-	41	3	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	20	2	69	15	--	-	14	1	--	-	--	-
...NAVICULACEAE												
....CALONEIS	--	-	14	3	--	-	--	-	--	-	--	-
....NAVICULA	150	12	55	12	57#	40	300#	21	160	3	550	11
...NITZSCHIACEAE												
....NITZSCHIA	230#	18	110#	24	--	-	220	15	2600#	54	2600#	51
...SURIRELLACEAE												
....SURIRELLA	10	1	41	9	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	810#	62	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-	1900#	37
..HORMOGONALES												
...OSCILLATORIACEAE												
....LYNGBYA	--	-	--	-	--	-	360#	24	--	-	--	-
....OSCILLATORIA	--	-	--	-	--	-	--	-	1300#	28	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	14	3	--	-	--	-	--	-	--	-
....EUTREPTIA	*	0	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09419700 LAS VEGAS WASH NEAR HENDERSON, NV

LOCATION.--Lat 36°05'20", long 114°59'05", in SE¼SW¼ sec.30, T.21 S., R.63 E., Clark County, Hydrologic Unit 15010015, on right bank at upstream end of 4.5-ft (1.37-m) pipe culvert on road, 3.5 mi (5.6 km) north of Henderson, and 6.0 mi (9.7 km) upstream from high-water line of Lake Mead at elevation 1,221.4 ft (372.28 m) National Geodetic Vertical Datum of 1929.

DRAINAGE AREA.--2,125 mi^2 (5,504 km^2), of which 1,518 mi^2 (3,932 km^2) contribute directly to surface runoff. Prior to Apr. 4, 1961, 2,179 mi^2 (5,644 km^2), of which 1,571 mi^2 (4,069 km^2) contributed directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1957 to current year.

REVISED RECORDS.--WSP 1926: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,540 ft (469 m), from topographic map. Prior to Apr. 4, 1961, at site 2.5 mi (4.0 km) downstream at various datums.

REMARKS.--Records fair. In closed basin above station, 2,150 acres (8.70 km^2) are irrigated, mostly by pumping from ground water. Discharge includes waste water from industrial plants and sewage effluent.

AVERAGE DISCHARGE.--23 years, 40.7 ft^3/s (1.153 m^3/s), 29,490 acre-ft/yr (36.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,510 ft^3/s (184 m^3/s) July 4, 1975, gage height, 10.67 ft (3.252 m), from flood-marks, from rating curve extended above 3,340 ft^3/s (94.6 m^3/s) on basis of area-velocity computation to determine peak flow; minimum daily, 4.8 ft^3/s (0.14 m^3/s) Aug. 17, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 994 ft^3/s (28.2 m^3/s) Feb. 17, gage height, 9.25 ft (2.819 m); minimum, 41 ft^3/s (1.16 m^3/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	75	82	87	84	71	81	86	80	108	88	74
2	63	72	82	80	84	74	84	89	75	241	83	73
3	59	71	84	79	83	89	82	90	72	103	81	72
4	59	77	83	78	81	79	86	89	75	96	81	75
5	60	79	84	81	75	77	87	86	80	94	80	78
6	61	76	84	91	67	79	89	76	78	95	78	82
7	64	71	85	90	69	95	90	76	80	96	82	103
8	64	71	79	88	72	78	83	74	77	90	73	110
9	67	80	80	91	74	103	83	73	75	81	71	88
10	66	77	81	124	75	144	77	77	69	78	72	103
11	72	80	81	89	70	132	78	77	66	79	73	94
12	67	81	82	99	68	79	77	73	64	76	73	92
13	68	82	82	84	74	72	89	73	67	81	78	87
14	74	82	77	82	203	77	87	73	72	82	71	89
15	80	78	70	79	186	76	88	85	70	88	75	93
16	79	71	74	83	88	79	81	81	73	81	79	92
17	79	71	83	89	362	78	82	80	75	74	81	89
18	76	74	71	91	107	76	78	82	72	75	82	81
19	79	75	70	162	91	74	86	81	72	74	82	70
20	79	78	68	128	108	79	87	83	71	77	84	70
21	82	78	69	95	83	81	85	82	70	81	82	72
22	81	75	75	88	78	83	80	80	70	85	77	74
23	80	79	80	85	80	85	74	80	66	85	80	82
24	81	81	79	87	80	85	70	83	68	86	86	81
25	76	80	78	88	79	98	74	83	68	85	86	77
26	77	82	77	89	77	80	75	81	68	83	78	80
27	71	77	89	92	75	76	80	77	68	86	79	79
28	71	76	84	89	75	76	81	76	78	87	74	82
29	72	78	83	159	75	75	83	79	79	80	70	80
30	69	85	85	140	---	77	88	75	79	77	66	78
31	73	---	84	82	---	75	---	74	---	117	76	---
TOTAL	2216	2312	2465	2969	2823	2602	2465	2474	2177	2821	2421	2500
MEAN	71.5	77.1	79.5	95.8	97.3	83.9	82.2	79.8	72.6	91.0	78.1	83.3
MAX	82	85	89	162	362	144	90	90	80	241	88	110
MIN	59	71	68	78	67	71	70	73	64	74	66	70
AC-FT	4400	4590	4890	5890	5600	5160	4890	4910	4320	5600	4800	4960

CAL YR 1979 TOTAL 25593 MEAN 70.1 MAX 133 MIN 52 AC-FT 50760
WTR YR 1980 TOTAL 30245 MEAN 82.6 MAX 362 MIN 59 AC-FT 59990

09419700 LAS VEGAS WASH NEAR HENDERSON, NV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1957 to October 1961, September and October 1962, May 1963 to June 1965, and December 1965 to current year.
CHEMICAL ANALYSES: January 1964 to January 1965, twice-monthly; October 1967 to January 1969, weekly; February 1969 to January 1970 and July 1970 to current year, monthly.
SPECIFIC CONDUCTANCE: January 1964 to January 1965, twice-monthly; October to November 1967 and April 1968 to January 1969, weekly; February 1969 to January 1970 and July 1970 to current year, monthly.
WATER TEMPERATURES: February 1957 to October 1961, monthly; September to October 1962, May 1963 to June 1965, and December 1965 to current year, monthly.
SEDIMENT DATA: January 1977 to current year, monthly.

REMARKS.--Discharge includes sewage effluent and some waste water from industrial plants.

COOPERATION.--All water-quality sampling and analyses prior to July 1970, plus nutrient analyses for period July 1970 to September 1972, from U.S. Environmental Protection Agency. Data in addition to those listed under "Period of Record" for January 1964 to June 1970 may exist in files of U.S. Environmental Protection Agency.

EXTREMES MEASURED FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 6,960 micromhos Sept. 19, 1968; minimum, 1,660 micromhos Feb. 13, 1979.
WATER TEMPERATURES: Maximum, 28.0°C July 30, Sept. 3, 1958; minimum, 2.0°C Jan. 31, 1972.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum, 347 mg/L July 11, 1978 (questionable value not verified by duplicate determination); minimum, 3 mg/L July 16, 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT											
16...	1030	62	2460	7.2	20.0	720	480	160	79	310	5.0
NOV											
09...	1400	62	2430	--	16.0	--	--	--	--	--	--
DEC											
10...	1130	61	2500	--	14.0	--	--	--	--	--	--
JAN											
14...	1130	66	2560	7.2	17.0	680	510	140	79	270	4.5
FEB											
12...	1015	60	3070	--	11.0	--	--	--	--	--	--
MAR											
11...	1145	144	2760	--	17.0	--	--	--	--	--	--
APR											
14...	0945	111	2130	7.5	18.0	700	450	150	80	240	5.9
MAY											
12...	1330	94	2450	--	19.5	--	--	--	--	--	--
JUN											
16...	1000	97	2190	--	21.5	--	--	--	--	--	--
JUL											
14...	0830	109	2180	7.2	25.5	630	420	140	68	220	5.8
AUG											
12...	0815	110	2300	--	26.0	--	--	--	--	--	--
SEP											
15...	1000	113	2160	--	22.5	--	--	--	--	--	--

09419700 LAS VEGAS WASH NEAR HENDERSON, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
OCT											
16...	23	240	660	320	1.0	28	1670	1720	2	.00	.060
NOV											
09...	--	--	--	--	--	--	--	--	--	.00	.020
DEC											
10...	--	--	--	--	--	--	--	--	--	.01	.020
JAN											
14...	23	170	720	290	.8	25	1700	1650	2	.05	.010
FEB											
12...	--	--	--	--	--	--	--	--	--	.03	.080
MAR											
11...	--	--	--	--	--	--	--	--	--	.04	.070
APR											
14...	19	250	600	250	.9	23	1590	1510	2	.01	.010
MAY											
12...	--	--	--	--	--	--	--	--	--	.04	.020
JUN											
16...	--	--	--	--	--	--	--	--	--	.00	.020
JUL											
14...	18	210	540	250	.8	17	1430	1380	1	.00	.020
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
15...	--	--	--	--	--	--	--	--	--	.00	.010

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	PHOSPHORUS TOTAL (MG/L AS PO4)	SEDIMENT, SUS-PENDED (MG/L)	SEDIMENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT											
16...	18.0	--	--	--	--	--	3.00	2.80	--	7	1.2
NOV											
09...	18.0	22	1.0	19.0	19	84	2.90	--	8.9	12	2.0
DEC											
10...	20.0	--	.00	19.0	19	84	5.10	--	--	8	1.3
JAN											
14...	17.0	21	9.0	26.0	26	120	3.40	3.10	10	4	.71
FEB											
12...	16.0	19	3.0	19.0	19	85	2.10	--	6.4	6	.97
MAR											
11...	15.0	18	5.0	20.0	20	89	2.40	--	7.4	6	2.3
APR											
14...	17.0	21	2.0	19.0	19	84	4.20	3.50	13	11	3.3
MAY											
12...	15.0	18	5.0	20.0	20	89	1.90	--	5.8	7	1.8
JUN											
16...	15.0	18	2.0	17.0	17	75	2.80	--	8.6	10	2.6
JUL											
14...	--	--	--	15.0	15	66	3.30	3.00	10	20	5.9
AUG											
12...	--	--	--	--	--	--	--	--	--	18	5.3
SEP											
15...	--	--	--	19.0	19	84	3.20	--	9.8	6	1.8

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV

LOCATION.--Lat 36°07'20", long 114°54'15", in NE¼SE¼ sec.14, T.21 S., R.63 E., Clark County, Hydrologic Unit 15010015, in Lake Mead National Recreation Area, on left bank near mouth, on upstream side of North Shore Road, about 0.8 mi (1.3 km) upstream from high-water line of Lake Mead at elevation 1,221.4 ft (372.28 m) National Geodetic Vertical Datum of 1929, and 11 mi (18 km) north-northwest of Boulder City.

DRAINAGE AREA.--2,193 mi^2 (5,680 km^2), of which 1,586 mi^2 (4,108 km^2) contribute directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,280 ft (390 m), from topographic map. Prior to June 5, 1978, water-stage recorder at site, 50 ft (15 m) upstream at different datum.

REMARKS.--Records fair. In closed basin above station, 2,150 acres (8.70 km^2) are irrigated, mostly by pumping from ground water. Discharge includes sewage effluent.

AVERAGE DISCHARGE.--11 years, 73.1 ft^3/s (2.070 m^3/s), 52,960 acre-ft (65.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,430 ft^3/s (68.8 m^3/s) July 4, 1975, gage height, 12.32 ft (3.755 m), from indirect measurement of peak flow, site and datum then in use; minimum, 14 ft^3/s (0.40 m^3/s) July 7, 8, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1964, reached a stage of 7.5 ft (2.29 m), from floodmarks, discharge, 1,050 ft^3/s (29.7 m^3/s), from indirect measurement of peak flow, and another flood between 1964 and 1969 reached a stage of about 10 ft (3.05 m), from floodmarks, discharge, about 1,700 ft^3/s (48.1 m^3/s), from rating curve extended above 300 ft^3/s (8.50 m^3/s) on basis of theoretical weir and culvert formulas, datum prior to June 5, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 620 ft^3/s (17.6 m^3/s) Feb. 14, gage height, 12.03 ft (3.667 m); minimum daily, 76 ft^3/s (2.15 m^3/s) Oct. 5, 6, June 12, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	90	98	101	107	115	99	99	91	181	104	97
2	89	89	96	96	108	117	99	99	89	310	93	97
3	82	88	92	98	112	130	97	101	86	125	94	84
4	77	92	97	98	101	127	94	101	86	115	92	88
5	76	91	94	100	95	118	94	97	89	112	86	93
6	76	97	94	107	87	118	96	89	85	103	90	98
7	82	91	94	109	81	139	97	90	87	99	87	118
8	82	88	92	113	81	117	99	92	90	96	85	131
9	85	93	90	103	85	114	99	90	86	90	80	114
10	87	98	91	132	90	114	94	96	78	87	85	129
11	90	94	93	119	85	137	106	90	77	88	90	123
12	90	94	94	117	82	122	105	86	76	91	87	114
13	88	99	96	107	79	106	112	86	78	91	92	106
14	92	97	95	107	174	106	99	82	85	91	82	107
15	98	94	83	102	149	111	99	94	92	93	83	109
16	100	89	86	100	154	110	94	92	89	92	90	107
17	99	83	93	99	283	112	100	89	92	82	97	106
18	96	86	96	99	125	112	102	92	89	83	97	99
19	99	87	88	119	131	103	108	91	87	81	100	87
20	100	90	86	167	202	102	114	92	85	85	102	83
21	104	94	84	115	118	105	112	93	85	88	106	87
22	102	89	87	106	117	103	109	91	86	93	104	88
23	102	91	98	102	122	108	99	91	81	96	103	97
24	102	96	101	101	118	115	90	90	76	94	109	98
25	102	94	96	102	118	123	85	93	77	92	108	93
26	98	94	94	102	122	109	83	92	80	92	97	97
27	93	90	103	104	117	94	89	92	78	87	97	97
28	89	85	101	104	117	94	92	90	81	89	94	101
29	87	89	99	114	123	96	92	94	82	90	93	100
30	87	93	102	213	---	100	96	88	82	90	90	99
31	85	---	98	112	---	94	---	87	---	118	100	---
TOTAL	2832	2745	2911	3468	3483	3471	2954	2849	2525	3224	2917	3047
MEAN	91.4	91.5	93.9	112	120	112	98.5	91.9	84.2	104	94.1	102
MAX	104	99	103	213	283	139	114	101	92	310	109	131
MIN	76	83	83	96	79	94	83	82	76	81	80	83
AC-FT	5620	5440	5770	6880	6910	6880	5860	5650	5010	6390	5790	6040

CAL YR 1979 TOTAL 33801 MEAN 92.6 MAX 152 MIN 67 AC-FT 67040
WTR YR 1980 TOTAL 36426 MEAN 99.5 MAX 310 MIN 76 AC-FT 72250

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1964 to January 1965, September 1966 to current year.
CHEMICAL ANALYSES: January 1964 to January 1965, twice-monthly; September 1966 to January 1969, weekly; February to October 1969, monthly; November 1969 to January 1970, twice-monthly; February 1970 to July 1974, monthly; August 1974 to current year, twice-monthly.
SPECIFIC CONDUCTANCE: January 1964 to January 1965, twice-monthly; September 1966 to December 1967 and May 1968 to January 1969, weekly; February to October 1969, monthly; November 1969 to January 1970, twice-monthly; February 1970 to July 1974, monthly; August 1974 to May 1975, twice-monthly; June 1975 to March 1976, 4 times per hour (incomplete record due to recorder malfunctions) and twice-monthly; April to October 1976, twice-monthly; November 1976 to September 1977, 4 times per hour (incomplete record due to recorder malfunctions) and twice-monthly; October 1977 to May 1978, 2-4 times per month; June 1978 to September 1979, 3-5 times per week. February to August 1979, twice-monthly; September and October 1979, 4 times per hour; November 1979 to current year, hourly.
MICROBIOLOGICAL DATA: October 1977 to current year, twice-monthly (data prior to October 1977 unpublished).
WATER TEMPERATURES: January to December 1968, weekly; August 1969 to July 1974, monthly; August 1974 to May 1978, twice-monthly; June 1978 to January 1979, 3-5 times per week; February to October 1979, twice-monthly; November 1979 to current year, hourly.
SUSPENDED-SEDIMENT DISCHARGE: January 1974 to December 1976, monthly; January 1977 to August 1979, twice-monthly; September 1979 to current year, monthly.

INSTRUMENTATION.--Specific conductance recorder from June 1975 to March 1976 and November 1976 to April 1978, and August 1979 to current year. Temperature recorder from November 1979 to current year.

REMARKS.--Discharge includes sewage effluent and waste water from industrial plants. Most periods of no record for specific-conductance and temperature recorders are the result of instrument malfunctions. High flow during February 1980 destroyed the recorder probes, resulting in loss of record.

COOPERATION.--Microbiological analyses prior to October 1978 by Nevada Bureau of Laboratories and Research. All water-quality sampling and analyses to October 1969, plus nutrient and trace-metal analyses for period October 1969 to September 1972, from U.S. Environmental Protection Agency. Data in addition to that listed under "Period of Record" for January 1964 to September 1969 may exist in files of U.S. Environmental Protection Agency.

EXTREMES MEASURED FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 9,120 micromhos Sept. 8, 1964; minimum, 2,380 micromhos Feb. 12, 1980.
FECAL STREPTOCOCCI: Maximum, 16,000 colonies/100 mL (non-ideal colony count) Aug. 14, 1978; minimum, 55 colonies/100 mL Jan. 10, 1977.
WATER TEMPERATURES: Maximum, 27.0°C July 17, 1980; minimum, 3.0°C Jan. 7, 1970.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum, 69,600 mg/L Feb. 15, 1980; (hand dipped sample; not depth integrated); minimum, 111 mg/L Jan. 28, 1975.

EXTREMES FOR CURRENT YEAR (MEASUREMENT AT LEAST ONCE DAILY).--
SPECIFIC CONDUCTANCE: Maximum, 4,520 micromhos Mar. 4; minimum, presumably not measured (see "Remarks").
WATER TEMPERATURE: Maximum, 27.0°C July 17; minimum, 8.0°C Feb. 10, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
OCT												
01...	1530	100	3100	--	22.5	--	--	34	2700	K580	1500	--
16...	1230	113	3030	7.4	19.0	49	7.6	57	450	100	870	980
26...	1300	108	3050	--	17.5	22	--	36	K160	K28	K820	--
NOV												
09...	1300	103	3220	7.4	15.0	17	8.6	35	--	--	--	--
29...	1100	103	3160	--	10.5	27	--	33	200	73	K150	--
DEC												
10...	1415	107	3130	7.8	13.0	33	9.3	19	1200	460	410	--
28...	1300	113	3190	--	11.5	--	--	38	K61	K30	260	--
JAN												
14...	1300	117	3260	7.8	15.5	130	9.6	39	K100	K30	460	1000
28...	1145	101	3200	--	12.5	62	--	--	K63	K24	170	--
FEB												
12...	1200	96	3450	7.9	11.0	42	10.5	25	K46	K15	170	--
15...	1045	E350	--	--	--	--	--	--	--	--	--	--
25...	1500	123	3610	--	17.5	540	--	100	K120	K40	K750	--
MAR												
11...	1230	117	3596	7.9	17.5	580	8.7	79	K100	K12	420	--
31...	1100	112	3250	--	15.5	66	--	47	K7900	170	260	--
APR												
14...	1100	130	3190	7.8	17.0	140	8.0	66	730	220	370	1000
MAY												
02...	1130	104	3070	--	19.5	74	--	49	670	--	480	--
12...	1415	90	3190	7.9	20.5	17	8.9	46	K71	K28	410	--
27...	1215	97	3030	--	20.0	--	--	75	K190	K18	1400	--
JUN												
16...	1100	99	2960	7.5	22.0	70	7.4	39	530	K40	1300	--
JUL												
14...	0945	123	3250	7.8	23.0	240	8.3	49	2200	K640	2900	1100
28...	0700	E89	3040	--	24.0	260	--	52	6000	K15	4200	--
AUG												
12...	0745	120	3080	7.7	25.0	16	6.9	49	7200	K570	2600	--
25...	1500	114	2990	--	26.0	94	--	56	1500	720	1400	--
SEP												
15...	1215	140	3070	8.1	23.0	200	7.3	47	7500	K180	1600	--
26...	1215	114	2970	--	22.5	88	--	40	1200	K130	680	--

K Based on non-ideal colony count.
E Estimated.

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)
OCT												
01...	--	--	--	--	--	--	--	--	--	--	--	--
16...	770	210	240	78	93	230	340	4.7	26	35	210	1000
26...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
09...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
10...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
14...	830	260	240	95	97	280	340	4.7	26	33	170	1100
28...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
12...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
11...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
14...	810	240	250	80	100	220	300	4.1	22	30	230	900
MAY												
02...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
16...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
14...	930	--	290	130	92	250	300	3.9	32	31	170	1000
28...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
12...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
15...	--	340	--	110	--	280	--	--	39	--	180	930
26...	--	--	--	--	--	--	--	--	--	--	--	--

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT												
01...	--	--	--	--	--	--	97	2.5	2.30	7.00	8.5	--
16...	380	.9	37	2250	2250	3	268	1.1	3.20	8.10	9.8	.20
26...	--	--	--	--	--	--	142	1.6	3.10	7.60	9.2	1.0
NOV												
09...	--	--	--	2300	--	3	131	--	--	4.80	--	--
29...	--	--	--	--	--	--	--	3.6	.690	11.0	13	--
DEC												
10...	--	--	--	2220	--	3	170	3.2	.810	11.0	13	3.0
28...	--	--	--	--	--	--	245	3.1	.490	5.10	6.2	--
JAN												
14...	370	.9	35	2360	2320	3	380	2.3	.740	7.80	9.4	1.5
28...	--	--	--	--	--	--	260	3.5	.440	6.90	8.3	--
FEB												
12...	--	--	--	2540	--	3	172	3.3	.960	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	1530	1.5	.510	10.0	12	10
MAR												
11...	--	--	--	2640	--	3	1660	1.1	.320	12.0	15	4.0
31...	--	--	--	--	--	--	364	1.3	.490	11.0	13	3.0
APR												
14...	370	1.0	31	2260	2120	3	521	1.5	.560	13.0	16	5.0
MAY												
02...	--	--	--	--	--	--	374	1.6	.640	19.0	23	--
12...	--	--	--	2390	--	3	205	1.7	.980	8.90	11	3.1
27...	--	--	--	--	--	--	260	1.6	.810	5.60	6.8	3.4
JUN												
16...	--	--	--	2120	--	2	290	1.7	1.00	8.80	11	3.2
JUL												
14...	390	1.1	26	2400	2230	3	--	1.3	.990	3.70	4.5	6.3
28...	--	--	--	--	--	--	488	--	--	2.60	.10	7.4
AUG												
12...	--	--	--	2260	--	3	498	--	--	4.60	1.7	4.8
25...	--	--	--	--	--	--	523	1.0	2.30	7.10	8.6	--
SEP												
15...	380	.8	22	2160	--	2	640	.90	1.70	9.10	11	4.9
26...	--	--	--	--	--	--	207	3.6	1.40	5.50	6.7	3.7

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT												
01...	--	--	--	--	.55	--	--	--	--	--	--	1500
16...	8.30	13	56	2.00	6.1	1.60	35	300	6	20	4	5000
26...	8.60	13	59	2.00	6.1	--	--	--	--	--	--	2600
NOV												
09...	--	--	--	1.90	--	--	26	400	0	8	10	2000
29...	--	--	--	1.90	5.8	--	--	--	--	--	--	1800
DEC												
10...	14.0	18	80	2.60	8.0	--	28	400	0	10	16	3600
28...	--	--	--	--	.03	--	--	--	--	--	--	4300
JAN												
14...	9.30	12	54	2.50	7.7	1.80	44	300	1	20	23	11000
28...	6.80	11	47	2.30	7.1	--	--	--	--	--	--	4300
FEB												
12...	10.0	14	63	1.40	4.3	--	22	300	0	10	7	2900
15...	--	--	--	--	--	--	--	--	--	--	--	--
25...	20.0	22	97	3.40	10	--	--	--	--	--	--	36000
MAR												
11...	16.0	17	77	3.80	12	--	120	900	0	60	56	31000
31...	14.0	16	70	1.90	5.8	--	--	--	--	--	--	6100
APR												
14...	18.0	20	89	3.40	10	2.80	33	300	5	30	17	11000
MAY												
02...	--	--	--	2.20	6.7	--	--	--	--	--	--	7400
12...	12.0	15	65	1.60	4.9	--	50	300	0	30	18	8500
27...	9.00	11	50	2.20	6.7	--	--	--	--	--	--	6900
JUN												
16...	12.0	15	65	2.60	8.0	--	64	200	0	20	20	7900
JUL												
14...	10.0	12	54	3.10	9.5	1.90	66	500	1	50	39	26000
28...	10.0	12	55	2.90	8.9	--	--	--	--	--	--	17000
AUG												
12...	9.40	12	54	2.40	7.4	--	95	400	0	40	31	14000
25...	--	--	--	2.80	8.6	--	--	--	--	--	--	14000
SEP												
15...	14.0	17	73	3.70	11	--	43	400	1	40	28	15000
26...	9.20	14	63	2.00	6.1	--	--	--	--	--	--	5800

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT												
01...	--	--	--	--	--	--	8.8	--	--	--	--	--
16...	58	2200	.0	1	0	40	15	.910	<.466	67	392	120
26...	--	--	--	--	--	--	8.9	--	--	--	--	--
NOV												
09...	28	590	.1	1	0	--	11	.849	<.497	--	278	77
29...	--	--	--	--	--	--	10	--	--	--	187	52
DEC												
10...	43	780	.0	1	0	30	15	--	--	--	221	64
26...	--	--	--	--	--	--	8.9	--	--	--	--	--
JAN												
14...	100	1400	.1	2	0	70	13	1.24	--	49	1160	366
28...	--	--	--	--	--	--	17	--	--	--	--	--
FEB												
12...	41	670	.0	3	0	40	10	4.43	.113	--	498	129
15...	--	--	--	--	--	--	--	--	--	74	69600	--
25...	--	--	--	--	--	--	47	--	--	--	--	--
MAR												
11...	530	5200	.1	3	1	220	36	3.30	<.468	59	3280	1040
31...	--	--	--	--	--	--	14	--	--	--	--	--
APR												
14...	260	1600	.1	3	0	60	21	4.21	.508	57	1080	379
MAY												
02...	--	--	--	--	--	--	29	--	--	--	--	--
12...	250	2200	.0	2	0	70	12	3.04	.507	46	822	200
27...	--	--	--	--	--	--	19	--	--	--	--	--
JUN												
16...	300	2500	.0	1	0	80	17	4.07	.405	48	591	158
JUL												
14...	250	2800	.3	3	0	190	28	6.02	.962	47	2410	800
28...	--	--	--	--	--	--	26	--	--	--	--	--
AUG												
12...	640	3800	.6	2	0	120	17	6.59	1.78	45	2160	700
25...	--	--	--	--	--	--	8.4	--	--	--	--	--
SEP												
15...	190	1800	.7	2	0	130	13	--	--	--	1200	454
26...	--	--	--	--	--	--	12	--	--	--	--	--

< Actual value is known to be less than value shown.

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)
OCT										
16...	1230	.00	.00	.00	.00	.00	.04	.00	.00	.00
JAN										
14...	1300	.01	.00	.00	.00	.00	.07	.00	.00	.00

DATE	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)
OCT									
16...	.00	.00	.00	.01	.00	.00	.00	.00	.00
JAN									
14...	.00	.00	.00	.01	.00	.00	.00	.00	.00

DATE	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	PCB, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT									
16...	--	--	.00	.00	0	--	.00	.00	.00
JAN									
14...	.00	.00	.00	.00	0	.00	.04	.00	.00

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3290	2950	---	---	---	---	3200	3020	3370	3260	---	---
2	3220	2860	---	---	---	---	3190	3000	3350	3260	---	---
3	3380	2870	---	---	---	---	3220	3070	3330	3180	3630	3470
4	3230	3020	---	---	---	---	3250	3110	3340	3160	4520	3570
5	3240	2910	---	---	---	---	3270	3150	3340	3200	---	---
6	3320	3020	---	---	---	---	3270	3100	3400	3260	4490	3480
7	3280	2810	3030	2790	---	---	3290	3060	3440	3320	3580	3430
8	3220	2840	3080	2940	---	---	---	---	3470	3360	3580	3410
9	3090	2760	3080	2940	---	---	---	---	3520	3420	3700	3350
10	---	---	3050	2920	---	---	---	---	3520	3410	3570	3220
11	---	---	3120	2930	---	---	---	---	3500	3370	3570	3010
12	---	---	3130	2900	---	---	---	---	3570	2380	3490	3070
13	---	---	3030	2870	---	---	---	---	---	---	3830	3230
14	---	---	3030	2880	---	---	3290	3150	---	3190	3520	3200
15	---	---	3120	2930	---	---	3280	3180	---	---	3380	3110
16	---	---	3100	2960	---	---	3290	3180	---	---	3350	3120
17	---	---	3140	2940	---	---	3290	3190	---	---	3230	3040
18	---	---	3300	3080	3260	3090	3280	3160	---	---	3280	3070
19	---	---	3340	3160	3220	3110	3240	3120	---	---	3420	3200
20	---	---	---	---	3420	3170	---	---	---	---	3450	3220
21	---	---	---	---	3430	3350	---	---	---	---	3400	3190
22	---	---	---	---	3380	3310	3310	---	---	---	3380	3240
23	---	---	---	---	3370	3150	3270	---	---	---	3310	3060
24	---	---	---	---	3260	3120	3250	---	---	---	---	---
25	---	---	---	---	3210	3070	3250	---	---	---	---	---
26	---	---	---	---	3240	2910	3280	---	---	---	3380	3010
27	---	---	3270	3090	3460	2920	3230	---	---	---	3470	3260
28	---	---	3350	3140	3230	2970	3300	3190	---	---	3410	3240
29	---	---	---	---	3220	2890	3290	3170	---	---	3500	3240
30	---	---	---	---	3260	3160	3500	2630	---	---	3410	3210
31	---	---	---	---	3220	2660	3390	3210	---	---	3470	3180
MONTH	3380	2760	3350	2790	3460	2660	3500	2630	3570	2380	4520	3010

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3270	3100	3170	3000	3090	2940	---	---	---	---	3240	2950
2	3330	3110	3140	3010	3060	2950	---	---	---	---	3020	2830
3	3410	3210	3240	3010	3150	2940	3790	3470	---	---	3050	2820
4	3400	3200	3200	2970	3190	2980	3610	3480	---	---	3120	2820
5	3490	3270	3100	2980	3020	2910	3590	3350	---	---	3120	2860
6	3400	3260	3210	3000	3010	2880	3400	3230	---	---	3120	2860
7	3320	3140	3170	3050	---	---	---	---	---	---	2970	2770
8	3410	3140	3300	3080	---	---	---	---	---	---	---	---
9	3290	3250	3200	3060	---	---	---	---	---	---	---	---
10	3600	3300	3320	3050	---	---	---	---	---	---	---	---
11	3450	3250	3180	3060	---	---	---	---	---	---	---	---
12	3430	3220	3210	3050	---	---	---	---	---	---	---	---
13	3310	3150	---	---	3170	2990	---	---	---	---	---	---
14	3290	3160	---	---	3040	2910	3310	3150	---	---	---	---
15	3290	3110	---	---	3040	2860	3340	3170	---	---	---	---
16	3400	3130	---	---	3130	2810	3310	3140	---	---	3030	2820
17	3240	3100	---	---	2970	2860	3320	3160	---	---	3080	---
18	3300	3050	---	---	2970	2860	3340	3150	3040	2880	3110	2920
19	---	---	3150	2990	3040	2880	3380	3150	2960	2810	3100	2920
20	---	---	3170	3000	3060	2900	3330	3090	3120	2740	3110	2960
21	---	---	3190	2990	---	2900	---	---	3020	2720	3060	2920
22	---	---	3130	3020	3050	2910	---	---	2950	2760	3060	2880
23	---	---	3150	3040	3110	2920	---	---	---	---	3120	2920
24	3260	3100	3070	2960	3170	2880	---	---	---	---	3200	2920
25	3270	3110	3100	2970	---	---	---	---	---	---	3110	2910
26	3320	3120	3240	2970	---	---	---	---	3110	2860	3060	2910
27	3260	3060	3160	2790	---	---	---	---	3130	2930	2980	2870
28	3200	3030	3190	2990	---	---	---	---	3340	3010	2990	2880
29	3210	3030	3140	3040	---	---	---	---	---	2960	3030	2850
30	3300	3020	3220	3020	---	---	---	---	3160	2970	3040	2860
31	---	---	3220	3030	---	---	---	---	3140	2890	---	---
MONTH	3600	3020	3320	2790	3190	2810	3790	3090	3340	2720	3240	2770
YEAR	4520	2380										

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			---	---	11.0	9.0	12.0	9.5	14.0	11.0	---	---
2			---	---	11.0	9.5	12.5	9.5	14.0	11.0	---	---
3			---	---	11.5	9.5	12.0	10.0	14.0	10.5	16.5	15.0
4			---	---	11.5	9.5	11.5	9.0	14.5	10.0	18.0	14.0
5			---	---	12.5	10.0	11.5	9.0	14.5	11.5	16.0	14.5
6			15.5	12.5	13.0	10.5	12.0	10.0	15.0	12.0	16.0	13.5
7			15.0	13.5	13.0	11.5	---	---	13.5	11.0	16.0	12.5
8			15.5	13.0	13.5	11.5	12.5	---	13.5	10.5	17.0	12.5
9			15.0	13.5	13.5	11.5	12.5	---	13.0	9.5	17.5	13.0
10			15.0	13.0	13.0	11.5	12.5	11.0	12.0	9.0	17.0	12.5
11			14.0	12.5	12.5	10.5	13.5	12.5	12.0	8.0	17.5	14.0
12			13.5	11.5	11.0	9.5	14.5	13.5	12.5	8.5	17.5	14.0
13			13.0	11.0	10.0	8.5	16.5	13.5	---	10.0	17.5	12.5
14			13.5	11.0	10.0	8.5	16.0	14.5	13.0	11.0	18.0	12.5
15			14.0	12.0	10.5	8.5	15.5	13.5	14.0	11.0	18.5	14.5
16			14.0	11.5	10.5	8.5	15.0	13.0	---	---	17.0	12.5
17			14.0	12.0	10.5	9.0	14.0	13.0	---	---	16.5	11.5
18			14.5	13.5	11.0	9.0	14.0	13.0	---	---	16.5	12.0
19			14.0	13.5	11.0	9.5	13.5	11.5	---	---	19.0	14.0
20			13.5	12.0	11.5	10.0	---	---	---	---	19.0	14.0
21			12.5	10.5	13.0	11.0	---	---	---	---	18.5	14.5
22			11.0	9.5	13.0	11.5	12.5	10.0	---	---	16.0	14.0
23			11.5	10.0	12.0	10.0	12.5	9.5	---	---	18.5	13.0
24			12.0	10.0	12.0	10.5	12.5	9.5	---	---	---	---
25			12.0	10.0	12.5	10.5	13.0	9.5	---	---	---	---
26			12.5	10.5	12.5	11.5	13.0	10.0	---	---	18.0	13.0
27			13.0	12.0	13.0	11.0	13.0	10.5	---	---	19.0	13.0
28			12.5	11.0	12.0	10.0	13.0	11.5	---	---	18.0	12.5
29			11.5	10.0	11.5	10.0	14.0	12.0	---	---	18.5	13.0
30			10.5	9.5	11.0	9.0	14.0	12.0	---	---	19.0	13.5
31			---	---	12.0	9.0	14.0	10.5	---	---	17.5	12.0
MONTH			15.5	9.5	13.5	8.5	16.5	9.0	15.0	8.0	19.0	11.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.5	13.0	21.0	18.0	23.5	18.0	---	---	---	---	24.5	19.0
2	18.0	12.0	22.5	18.0	23.5	19.0	---	---	---	---	25.0	19.5
3	19.0	13.5	23.5	19.5	23.5	18.5	26.0	---	---	---	25.0	20.0
4	19.0	14.0	24.5	20.5	23.0	18.5	25.5	21.0	---	---	25.0	20.0
5	21.0	16.0	25.0	21.5	23.0	18.5	25.5	20.5	---	---	25.0	21.0
6	21.5	16.0	24.0	21.5	23.0	18.5	25.5	20.5	---	---	26.5	22.0
7	21.0	16.0	24.0	21.5	---	---	---	---	---	---	25.0	22.5
8	20.0	14.5	24.0	20.0	---	---	---	---	---	---	25.0	22.5
9	17.0	16.0	21.5	19.5	---	---	---	---	---	---	24.0	21.5
10	22.0	16.0	20.5	18.0	---	---	---	---	---	---	24.0	21.0
11	20.0	14.5	19.0	16.5	---	---	---	---	---	---	24.5	21.0
12	19.5	12.5	---	---	23.5	19.0	---	---	---	---	24.5	21.0
13	19.5	13.0	---	---	23.5	19.0	---	---	---	---	24.5	21.0
14	19.0	13.0	---	---	24.0	18.5	25.5	---	---	---	24.0	21.0
15	20.5	13.5	---	---	24.5	19.5	25.5	20.5	---	---	---	---
16	21.0	14.5	---	---	25.0	20.0	26.5	21.0	---	---	24.5	20.5
17	21.0	14.5	---	---	25.5	20.0	27.0	22.5	---	---	25.5	21.5
18	21.0	14.5	---	---	26.0	20.5	26.5	22.5	25.0	---	26.0	22.0
19	---	---	24.0	---	25.5	20.5	26.5	22.0	25.0	20.5	24.0	21.0
20	---	---	24.5	20.5	25.0	20.0	26.5	21.0	25.0	20.5	23.5	19.5
21	---	---	24.5	21.5	25.0	19.5	25.0	22.0	25.0	21.0	23.5	19.5
22	---	---	23.5	20.5	25.0	20.0	---	---	25.0	20.5	23.0	19.5
23	---	---	22.0	18.0	24.5	20.5	---	---	---	---	22.5	18.5
24	---	---	19.5	16.5	24.5	19.5	---	---	---	---	22.5	18.0
25	21.5	16.5	20.5	16.0	---	---	---	---	26.5	21.0	23.0	18.5
26	22.5	17.5	21.0	17.5	---	---	---	---	26.5	21.0	23.5	19.0
27	22.5	18.5	22.5	18.0	---	---	---	---	25.0	20.5	23.5	19.5
28	20.5	19.0	22.0	18.0	---	---	---	---	24.5	19.5	23.5	20.0
29	19.5	18.0	23.5	18.0	---	---	---	---	24.5	19.5	24.0	20.0
30	20.0	17.5	23.5	18.5	---	---	---	---	24.5	18.5	24.0	20.0
31	---	---	23.5	18.5	---	---	---	---	24.5	19.0	---	---
MONTH	22.5	12.0	25.0	16.0	26.0	18.0	27.0	20.5	26.5	18.5	26.5	18.0
YEAR	27.0	8.0										

09421000 LAKE MEAD AT HOOVER DAM, AZ-NV

LOCATION.--Lat 36°00'58", long 114°44'13", in NE¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, Mohave-Clark Counties, Hydrologic Unit 15010005, in center of Hoover Dam on Colorado River.

DRAINAGE AREA.--171,700 mi^2 (444,700 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Contents: February 1935 to current year. Evaporation: March 1952 to current year. Diversions (monthly totals only): to Boulder City area, since October 1935; to Henderson and Las Vegas areas, since April 1942; combined diversions since October 1968. Prior to 1946 published as "at Boulder Dam."

REVISED RECORDS.--WSP 899: 1935-39.

GAGE.--Water-stage indicator read once daily at midnight, with supplementary water-stage recorder. Datum of gage is 0.00 ft (0.000 m) to Local Powerhouse datum and is 0.40 ft (0.122 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete arch-gravity dam; storage began Feb. 1, 1935; dam completed Mar. 1, 1936. Total capacity (based on 1963-64 resurvey by Coast and Geodetic Survey; capacity table put into use Apr. 1, 1967), 29,755,000 acre-ft (36,700 hm^3), consisting of the following: Dead storage, 2,378,000 acre-ft (2,930 hm^3) below gage height 895.0 ft (272.80 m)—gate sills in outlet towers; usable contents, 26,159,000 acre-ft (32,300 hm^3) between gage heights 895.0 ft (272.80 m) and 1,221.4 ft (372.28 m)—top of automatic spillway gates in raised position; and uncontrolled storage, 1,218,000 acre-ft (1,500 hm^3) between gage heights 1,221.4 ft (372.28 m) and 1,229.0 ft (374.60 m)—maximum water surface. Reservoir is used to store water for flood control, irrigation, municipal water supply, and power development. Figures given herein represent usable contents.

DIVERSIONS FROM LAKE MEAD.--Diversions to Boulder City area at dam; diversions to Henderson and Las Vegas areas from intakes 6 mi (10 km) upstream. Diversions measured by Venturi meters. Water used for municipal and industrial purposes.

COOPERATION.--Records of gage height and contents furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation). Records of diversions from Lake Mead furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation) and Colorado River Commission of Nevada.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 27,790,000 acre-ft (34,300 hm^3) July 29, 30, 1941, gage height, 1,220.45 ft (371.993 m); minimum (since 1940), 10,695,000 acre-ft (1,200 hm^3) Apr. 26, 1956, gage height, 1,083.21 ft (330.162 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,653,000 acre-ft (29,200 hm^3) Sept. 21, gage height, 1,205.03 ft (367.293 m); minimum, 22,212,000 acre-ft (27,400 hm^3) Oct. 25, gage height, 1,195.09 ft (364.263 m).

RESERVOIR STORAGE, IN THOUSANDS OF ACRE FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22245	22228	22446	22629	22789	23538	23301	23197	22925	23266	23597	23589
2	22238	22230	22461	22609	22812	23557	23292	23191	22932	23307	23617	23572
3	22230	22247	22471	22592	22825	23566	23282	23200	22918	23336	23631	23566
4	22233	22273	22477	22576	22841	23569	23272	23210	22918	23374	23628	23548
5	22242	22282	22491	22583	22832	23563	23280	23197	22928	23408	23622	23533
6	22250	22283	22493	22593	22834	23564	23304	23169	22936	23436	23616	23554
7	22262	22290	22494	22595	22841	23563	23288	23156	22960	23460	23607	23569
8	22252	22306	22509	22587	22852	23573	23261	23139	22980	23473	23601	23569
9	22245	22320	22524	22593	22861	23579	23253	23112	22979	23492	23613	23583
10	22245	22336	22517	22602	22880	23563	23248	23117	22974	23496	23626	23582
11	22246	22360	22513	22620	22903	23550	23231	23130	22981	23496	23629	23594
12	22255	22367	22526	22628	22916	23535	23236	23115	22990	23521	23622	23595
13	22272	22354	22543	22646	22928	23517	23244	23090	22999	23550	23619	23615
14	22289	22351	22550	22651	22952	23498	23231	23063	23025	23558	23610	23635
15	22299	22357	22564	22652	22973	23493	23231	23040	23060	23566	23606	23635
16	22292	22366	22577	22649	23009	23490	23226	23021	23066	23563	23631	23628
17	22279	22380	22582	22639	23041	23476	23217	23012	23063	23566	23641	23625
18	22266	22394	22582	22626	23061	23455	23212	23018	23072	23563	23629	23622
19	22250	22384	22576	22635	23092	23439	23232	23000	23095	23579	23617	23616
20	22259	22371	22582	22653	23153	23418	23251	23002	23102	23601	23616	23631
21	22266	22367	22587	22661	23206	23421	23235	23010	23118	23595	23606	23653
22	22253	22393	22593	22666	23258	23423	23213	23003	23133	23579	23597	23647
23	22223	22410	22599	22689	23308	23432	23198	22964	23107	23578	23585	23641
24	22218	22427	22605	22702	23362	23407	23190	22957	23092	23579	23586	23638
25	22212	22431	22613	22711	23410	23392	23190	22958	23112	23573	23583	23634
26	22218	22444	22603	22720	23440	23379	23207	22961	23123	23586	23585	23635
27	22255	22441	22592	22725	23476	23360	23226	22938	23130	23597	23589	23643
28	22233	22438	22587	22720	23496	23349	23216	22920	23168	23598	23581	23651
29	22218	22437	22603	22725	23520	23357	23206	22913	23217	23597	23575	23647
30	22215	22433	22619	22746	---	23362	23198	22899	23247	23595	23581	23637
31	22216	---	22623	22770	---	23335	---	22906	---	23597	23586	---
MAX	22299	22444	22623	22770	23520	23579	23304	23210	23247	23601	23641	23653
MIN	22212	22228	22446	22576	22789	23335	23190	22899	22918	23266	23575	23533
(*)	1195.12	1196.64	1197.97	1198.99	1204.13	1202.87	1201.94	1199.93	1202.27	1204.65	1204.58	1204.92
(†)	-26000	+217000	+190000	+147000	+750000	-185000	-137000	-292000	+341000	+350000	-11000	+51000
(‡)	11940	9200	7820	6980	6270	6080	9760	11770	12840	14160	14570	12410
(**)	9.3	8.1	4.5	5.1	3.5	4.1	4.0	6.7	7.2	9.4	9.1	6.2
(††)	110100	96200	53700	61100	42300	49600	48800	81200	87000	115500	112200	76400

CAL YR 1979 MAX 23324 MIN 21976 † +663000 ‡ 114200 ** 76.5 †† 911700
WTR YR 1980 MAX 23653 MIN 22212 † +1395000 ‡ 123800 ** 77.2 †† 934100

* Gage height, in feet, at end of month.
† Change in contents, in acre-feet.
‡ Diversions, in acre-feet.
** Gross evaporation, in inches, from Lake Mead.
†† Gross evaporation, in acre-feet, from Lake Mead.

NOTE.--Figures of gross evaporation are based on data obtained on Lake Mead by the U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation) and at Las Vegas by National Weather Service, and are computed by the Geological Survey. Only the mass-transfer method described in Geological Survey Professional Paper 298 is used. "Gross" denoted the total evaporation from the lake without deduction for precipitation on the lake surface or for natural losses that would have occurred in the area now occupied by the lake. Starting February 1976 coefficient changed to 0.00179.

COLORADO RIVER MAIN STEM

09421000 LAKE MEAD AT HOOVER DAM, AZ-NV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REMARKS.--Unpublished chemical analyses for 1963 water year available from Metropolitan Water District of Southern California, LaVerne, Calif.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	ELEVATION (FT. NGVD)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
OCT											
10...	1000	.0	1195.00	1160	7.7	25.5	7.9	330	230	81	32
10...	1005	10	1185.00	1120	8.2	25.5	7.9	340	230	--	--
10...	1010	25	1170.00	1120	8.5	25.5	7.9	340	230	--	--
10...	1020	75	1120.00	1060	8.0	22.0	2.4	340	210	86	31
10...	1030	125	1070.00	1080	7.9	19.0	4.2	340	220	--	--
10...	1035	175	1020.00	1080	7.9	15.5	6.4	340	210	--	--
10...	1040	225	970.00	1080	8.0	14.0	7.0	340	210	--	--
10...	1045	275	920.00	1080	8.0	12.5	7.2	340	210	--	--
10...	1050	285	910.00	1080	8.0	12.0	7.2	330	200	84	30
10...	1055	325	870.00	1100	8.0	11.5	7.0	340	200	--	--
10...	1100	375	820.00	1100	8.0	11.5	6.8	330	200	--	--
10...	1110	425	770.00	1100	7.9	11.5	6.2	340	200	--	--
10...	1120	475	720.00	1100	7.9	11.0	6.1	330	200	83	30
10...	1130	480	715.00	1100	7.9	11.0	5.1	340	200	--	--
NOV											
27...	1020	.0	1197.00	1140	7.3	16.5	7.5	340	220	83	32
27...	1030	10	1187.00	1140	8.2	17.0	7.8	340	220	--	--
27...	1040	25	1172.00	1140	8.2	17.0	7.4	340	220	--	--
27...	1050	75	1122.00	1140	8.3	17.0	7.5	340	220	--	--
27...	1100	125	1072.00	1140	8.2	17.0	7.1	340	220	--	--
27...	1110	175	1022.00	1060	8.1	16.5	5.6	340	210	84	32
27...	1120	225	972.00	1060	8.0	14.5	6.6	340	210	--	--
27...	1130	275	922.00	1060	8.0	13.0	7.0	340	210	--	--
27...	1140	286	911.00	1070	8.0	12.5	6.7	340	200	83	31
27...	1150	325	872.00	1080	8.0	12.0	6.7	330	200	--	--
27...	1200	375	822.00	1080	8.0	12.0	6.5	340	200	--	--
27...	1210	425	772.00	1090	7.9	11.5	5.9	340	200	--	--
27...	1220	475	722.00	1100	7.8	11.5	4.8	330	200	83	31
27...	1230	482	715.00	1100	7.8	11.0	4.6	340	200	--	--
JAN											
02...	0955	.0	1198.00	1120	7.7	13.0	7.6	340	220	85	31
02...	1005	10	1188.00	1130	8.1	14.0	7.5	340	220	--	--
02...	1020	25	1173.00	1120	8.2	14.0	7.5	340	220	--	--
02...	1030	75	1123.00	1130	8.2	14.0	7.4	340	220	--	--
02...	1045	125	1073.00	1130	8.2	14.0	7.6	340	220	--	--
02...	1105	175	1023.00	1120	8.3	14.0	6.9	340	210	85	31
02...	1120	225	973.00	1090	8.2	13.0	6.2	340	210	--	--
02...	1130	275	973.00	1080	8.2	12.0	6.6	340	210	--	--
02...	1145	288	910.00	1080	8.2	12.0	6.5	330	200	84	30
02...	1205	325	873.00	1080	8.2	11.5	6.2	340	210	--	--
02...	1220	375	823.00	1090	8.1	11.5	6.1	340	210	--	--
02...	1230	425	773.00	1090	8.0	11.5	5.4	340	210	--	--
02...	1245	475	723.00	1090	8.0	11.5	4.2	330	200	84	30
02...	1300	483	715.00	1090	8.1	11.5	4.2	330	210	--	--
30...	0900	.0	1199.00	1120	7.8	13.0	8.2	340	210	84	31
30...	0910	10	1189.00	1120	7.9	13.0	8.2	340	210	--	--
30...	0920	25	1174.00	1120	8.1	13.0	7.8	340	220	--	--
30...	0930	75	1124.00	1120	8.1	12.5	8.2	340	210	--	--
30...	0940	125	1074.00	1120	8.1	12.5	8.0	340	210	--	--
30...	0950	175	1024.00	1120	8.0	12.5	7.6	340	210	--	--
30...	1000	225	974.00	1100	8.0	12.0	7.5	340	210	--	--
30...	1010	275	924.00	1100	8.0	12.0	6.3	330	200	--	--
30...	1020	288	911.00	1080	7.9	12.0	6.3	330	200	84	30
30...	1030	325	874.00	1090	7.9	12.0	6.4	330	200	--	--
30...	1040	375	824.00	1090	7.9	12.0	6.1	340	200	--	--
30...	1100	425	774.00	1100	7.9	11.5	6.5	340	220	--	--
30...	1115	475	724.00	1100	7.8	11.5	4.8	330	200	83	30
30...	1130	483	716.00	1100	7.8	11.0	4.1	340	200	--	--
FEB											
28...	0830	.0	1204.00	1110	8.5	14.5	11.3	340	210	84	30
28...	0845	10	1194.00	1110	8.4	14.0	11.0	340	210	--	--
28...	0900	25	1179.00	1120	8.2	13.5	9.8	340	210	--	--
28...	0915	75	1129.00	1120	8.2	12.5	8.7	340	210	--	--
28...	0930	125	1079.00	1120	8.2	12.5	8.7	340	210	--	--
28...	0945	175	1029.00	1120	8.2	12.5	8.4	340	210	--	--
28...	1000	225	979.00	1100	8.2	12.5	8.4	340	210	--	--
28...	1015	275	929.00	1100	8.1	12.0	6.5	340	210	--	--
28...	1030	293	911.00	1100	8.0	12.0	6.2	330	200	84	30
28...	1045	325	879.00	1100	7.9	12.0	5.9	340	210	--	--
28...	1100	375	829.00	1100	7.8	11.5	6.1	340	210	--	--
28...	1110	425	779.00	1100	7.6	11.5	5.2	340	200	--	--
28...	1120	475	729.00	1110	7.8	11.5	5.2	340	200	85	30
28...	1130	483	721.00	1110	7.8	11.5	4.6	340	200	--	--
MAR											
27...	0840	.0	1203.00	1080	8.5	15.5	9.8	340	220	--	--
27...	0900	10	1193.00	1110	8.6	14.5	10.0	340	210	84	32
27...	0915	25	1178.00	1110	7.8	14.0	9.6	340	210	--	--
27...	0930	75	1128.00	1110	7.7	13.5	9.5	340	210	--	--
27...	0945	125	1078.00	1110	7.7	13.5	9.0	340	210	--	--
27...	1000	175	1028.00	1110	7.5	13.0	8.1	340	210	--	--

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service and analyzed by the Metropolitan Water District of Southern California, LaVerne, Calif.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT											
10...	110	2.6	5.4	130	0	320	100	.3	9.1	722	.98
10...	--	--	--	130	0	--	99	--	--	--	--
10...	--	--	--	130	0	--	99	--	--	--	--
10...	110	2.6	5.0	160	0	300	93	.3	8.4	713	.97
10...	--	--	--	150	0	--	92	--	--	--	--
10...	--	--	--	160	0	--	92	--	--	--	--
10...	--	--	--	160	0	--	90	--	--	--	--
10...	--	--	--	160	0	--	88	--	--	--	--
10...	100	2.4	4.8	160	0	290	88	.3	10	687	.93
10...	--	--	--	160	0	--	87	--	--	--	--
10...	--	--	--	160	0	--	86	--	--	--	--
10...	--	--	--	160	0	--	87	--	--	--	--
10...	100	2.4	4.7	160	0	280	88	.4	9.1	675	.92
10...	--	--	--	160	0	--	88	--	--	--	--
NOV											
27...	110	2.6	5.1	150	0	310	96	.3	7.9	719	.98
27...	--	--	--	150	0	--	95	--	--	--	--
27...	--	--	--	150	0	--	94	--	--	--	--
27...	--	--	--	150	0	--	94	--	--	--	--
27...	--	--	--	150	0	--	94	--	--	--	--
27...	100	2.4	4.8	160	0	300	92	.3	8.1	702	.95
27...	--	--	--	160	0	--	89	--	--	--	--
27...	--	--	--	160	0	--	89	--	--	--	--
27...	100	2.4	4.6	160	0	290	88	.3	8.4	686	.93
27...	--	--	--	160	0	--	87	--	--	--	--
27...	--	--	--	160	0	--	87	--	--	--	--
27...	--	--	--	160	0	--	87	--	--	--	--
27...	100	2.4	4.5	160	0	280	87	.3	9.1	675	.92
27...	--	--	--	170	0	--	87	--	--	--	--
JAN											
02...	110	2.6	4.8	150	0	310	93	.3	8.6	718	.98
02...	--	--	--	150	0	--	92	--	--	--	--
02...	--	--	--	150	0	--	92	--	--	--	--
02...	--	--	--	150	0	--	92	--	--	--	--
02...	--	--	--	150	0	--	93	--	--	--	--
02...	110	2.6	4.7	150	0	300	91	.3	8.7	706	.96
02...	--	--	--	150	0	--	90	--	--	--	--
02...	--	--	--	150	0	--	87	--	--	--	--
02...	100	2.4	4.4	160	0	290	88	.3	8.6	686	.93
02...	--	--	--	150	0	--	86	--	--	--	--
02...	--	--	--	150	0	--	93	--	--	--	--
02...	--	--	--	150	0	--	88	--	--	--	--
02...	100	2.4	4.4	160	0	280	87	.3	9.2	676	.92
02...	--	--	--	150	0	--	87	--	--	--	--
30...	110	2.6	4.7	150	0	300	91	.3	9.4	706	.96
30...	--	--	--	150	0	--	91	--	--	--	--
30...	--	--	--	150	0	--	91	--	--	--	--
30...	--	--	--	160	0	--	92	--	--	--	--
30...	--	--	--	160	0	--	91	--	--	--	--
30...	--	--	--	160	0	--	90	--	--	--	--
30...	--	--	--	160	0	--	91	--	--	--	--
30...	--	--	--	160	0	--	88	--	--	--	--
30...	100	2.4	4.3	160	0	290	88	.3	9.4	687	.93
30...	--	--	--	160	0	--	87	--	--	--	--
30...	--	--	--	160	0	--	88	--	--	--	--
30...	--	--	--	150	0	--	95	--	--	--	--
30...	100	2.4	4.2	160	0	280	86	.3	11	675	.92
30...	--	--	--	160	0	--	87	--	--	--	--
FEB											
28...	110	2.6	4.7	150	0	300	90	.2	8.8	702	.95
28...	--	--	--	150	0	--	89	--	--	--	--
28...	--	--	--	150	0	--	89	--	--	--	--
28...	--	--	--	160	0	--	89	--	--	--	--
28...	--	--	--	160	0	--	92	--	--	--	--
28...	--	--	--	160	0	--	91	--	--	--	--
28...	--	--	--	160	0	--	91	--	--	--	--
28...	--	--	--	160	0	--	85	--	--	--	--
28...	100	2.4	4.5	160	0	290	86	.2	8.7	684	.93
28...	--	--	--	160	0	--	87	--	--	--	--
28...	--	--	--	160	0	--	87	--	--	--	--
28...	--	--	--	160	0	--	86	--	--	--	--
28...	100	2.4	4.5	160	0	290	88	.2	9.2	687	.93
28...	--	--	--	160	0	--	86	--	--	--	--
MAR											
27...	--	--	--	160	0	--	92	--	--	--	--
27...	110	2.6	4.7	160	0	300	92	.3	9.5	713	.97
27...	--	--	--	160	0	--	93	--	--	--	--
27...	--	--	--	160	0	--	93	--	--	--	--
27...	--	--	--	160	0	--	93	--	--	--	--
27...	--	--	--	160	0	--	91	--	--	--	--

COLORADO RIVER MAIN STEM

09421000 LAKE MEAD AT HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT										
10...	--	.00	.00	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	.16	.70	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	.27	1.2	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	.18	.80	--	--	--	--	--	--	--
NOV										
27...	--	.18	.80	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	.34	1.5	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	.34	1.5	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	.38	1.7	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
JAN										
02...	--	.25	1.1	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	.36	1.6	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	.47	2.1	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
02...	--	.45	2.0	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
30...	--	.32	1.4	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	.38	1.7	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	.41	1.8	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
FEB										
28...	--	.14	.60	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	.41	1.8	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	.32	1.4	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	.32	1.4	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	ELEVATION (FT. NGVD)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR											
27...	1015	225	978.00	1110	7.7	12.0	7.5	340	210	--	--
27...	1030	275	928.00	1110	7.3	12.0	6.8	340	210	--	--
27...	1045	293	910.00	1110	7.3	12.0	6.0	330	200	84	30
27...	1100	325	878.00	1110	7.2	12.0	6.5	340	210	--	--
27...	1115	375	828.00	1110	--	12.0	5.8	340	210	--	--
27...	1130	425	778.00	1110	7.3	12.0	5.8	340	200	--	--
27...	1145	475	728.00	1110	7.2	12.0	5.7	340	200	65	30
27...	1200	483	720.00	1110	7.3	12.0	5.7	340	200	--	--
MAY											
01...	0945	.0	1202.00	1110	6.3	17.5	9.8	340	220	--	--
01...	1000	10	1192.00	1130	8.2	17.5	9.6	340	210	85	31
01...	1010	25	1177.00	1120	8.1	16.0	9.8	340	220	--	--
01...	1020	75	1127.00	1120	8.1	15.0	9.4	340	220	--	--
01...	1030	125	1077.00	1120	6.0	13.5	8.8	340	220	--	--
01...	1040	175	1027.00	1120	7.7	13.0	8.2	340	210	--	--
01...	1050	225	977.00	1110	7.8	12.5	7.3	340	210	--	--
01...	1100	275	927.00	1100	--	12.5	7.3	340	210	85	30
01...	1110	292	910.00	1110	7.7	12.0	6.6	340	210	--	--
01...	1120	325	879.00	1100	7.7	12.0	6.4	340	210	--	--
01...	1130	375	827.00	1100	7.8	12.0	5.8	340	210	--	--
01...	1140	425	777.00	1100	7.7	12.0	5.8	330	210	85	30
01...	1200	475	727.00	1100	7.8	12.0	5.4	340	210	--	--
01...	1215	462	720.00	1100	7.6	12.0	5.4	340	210	--	--
29...	0905	.0	1200.00	1120	8.5	19.0	9.5	340	210	63	32
29...	0910	10	1190.00	1130	6.6	19.0	9.5	340	220	--	--
29...	0915	25	1175.00	1130	8.6	18.5	9.5	340	220	--	--
29...	0920	75	1125.00	1110	8.4	16.5	6.6	340	220	--	--
29...	0925	125	1075.00	1100	8.4	15.0	8.3	350	220	--	--
29...	0930	175	1025.00	1090	8.2	14.0	7.8	340	210	--	--
29...	0935	225	975.00	1100	8.1	13.0	7.3	340	210	--	--
29...	0940	275	925.00	1100	8.1	13.0	6.8	330	200	--	--
29...	0945	292	908.00	1100	8.0	12.5	7.0	340	210	85	31
29...	0950	325	875.00	1100	6.0	12.0	6.6	340	210	--	--
29...	0955	375	825.00	1100	8.0	12.0	6.2	340	210	--	--
29...	1000	425	775.00	1100	8.0	12.0	6.0	340	200	--	--
29...	1015	475	725.00	1110	8.0	12.0	5.7	340	210	85	31
29...	1030	484	716.00	1110	8.0	12.0	5.5	340	210	--	--
JUN											
26...	0840	.0	1201.00	1090	8.2	24.5	8.9	340	220	--	--
26...	0855	10	1191.00	1120	8.4	23.0	9.4	340	220	83	31
26...	0910	25	1176.00	1120	8.3	22.0	9.0	340	220	--	--
26...	0925	75	1126.00	1110	6.2	18.0	8.1	340	220	--	--
26...	0940	125	1076.00	1110	7.9	15.5	7.4	340	220	--	--
26...	0955	175	1026.00	1110	8.0	14.0	7.8	340	210	--	--
26...	1010	225	976.00	1100	8.0	13.0	7.6	340	210	--	--
26...	1025	275	926.00	1100	8.2	13.0	8.0	340	210	85	31
26...	1040	291	910.00	1100	7.9	13.0	7.2	340	210	--	--
26...	1055	325	876.00	1100	7.9	12.0	7.2	340	210	--	--
26...	1110	375	826.00	1100	7.9	12.0	6.4	340	210	--	--
26...	1125	425	776.00	1110	7.9	12.0	6.2	340	210	--	--
26...	1140	475	726.00	1110	7.8	12.0	5.4	340	210	86	30
26...	1200	485	716.00	1110	7.8	12.0	4.6	340	210	--	--
JUL											
31...	0900	.0	1205.00	1080	8.3	29.0	8.2	330	220	--	--
31...	0905	10	1195.00	1100	8.4	28.0	8.6	330	220	79	32
31...	0910	25	1180.00	1110	8.4	28.0	8.4	320	220	--	--
31...	0920	75	1130.00	1130	8.1	18.0	6.2	340	220	84	32
31...	0930	125	1080.00	1120	8.0	16.0	6.5	340	220	--	--
31...	0940	175	1030.00	1100	7.9	14.0	7.2	340	210	--	--
31...	0950	225	980.00	1110	7.9	13.5	7.4	340	210	--	--
31...	1000	275	930.00	1100	8.0	13.0	7.1	340	210	85	31
31...	1010	294	911.00	1100	8.0	13.0	7.0	340	210	--	--
31...	1020	325	880.00	1100	7.9	12.5	6.7	340	210	--	--
31...	1030	375	830.00	1110	7.8	12.5	6.0	340	210	--	--
31...	1040	425	780.00	1110	7.7	12.0	5.3	340	210	85	31
31...	1050	475	730.00	1120	7.7	12.0	4.4	340	210	--	--
31...	1100	488	717.00	1120	7.7	12.0	4.0	340	210	--	--
AUG											
28...	0815	.0	1205.00	1120	8.3	27.0	8.6	340	230	--	--
28...	0825	10	1195.00	1130	8.4	27.0	8.6	330	230	80	32
28...	0835	25	1180.00	1140	8.6	26.0	8.6	340	230	--	--
28...	0845	75	1130.00	1100	8.1	19.5	5.0	340	210	--	--
28...	0855	125	1080.00	1120	7.9	17.0	5.2	340	220	--	--
28...	0905	175	1030.00	1080	8.1	17.0	6.8	340	210	85	31
28...	0915	225	980.00	1100	6.1	13.0	6.7	340	210	--	--
28...	0930	275	930.00	1100	8.0	12.5	7.2	340	210	85	31
28...	0945	294	911.00	1100	6.0	12.5	6.4	340	210	--	--
28...	0955	325	880.00	1100	8.0	12.0	6.2	340	210	--	--
28...	1005	375	830.00	1100	7.9	12.0	5.4	340	210	--	--
28...	1015	425	780.00	1100	7.9	12.0	4.9	340	210	--	--
28...	1030	475	730.00	1110	7.8	12.0	3.9	340	210	85	31
28...	1100	490	715.00	1110	7.8	13.0	3.8	340	200	--	--

09421000 LAKE MEAD AT HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
MAR											
27...	--	--	--	160	0	--	91	--	--	--	--
27...	--	--	--	160	0	--	90	--	--	--	--
27...	100	2.4	4.5	160	0	290	89	.3	11	689	.94
27...	--	--	--	170	0	--	89	--	--	--	--
27...	--	--	--	160	0	--	89	--	--	--	--
27...	--	--	--	170	0	--	88	--	--	--	--
27...	100	2.4	4.5	160	0	290	90	.3	10	690	.94
27...	--	--	--	160	0	--	89	--	--	--	--
MAY											
01...	--	--	--	160	0	--	93	--	--	--	--
01...	110	2.6	4.7	160	0	310	93	.3	8.2	722	.98
01...	--	--	--	150	0	--	93	--	--	--	--
01...	--	--	--	150	0	--	94	--	--	--	--
01...	--	--	--	150	0	--	93	--	--	--	--
01...	--	--	--	160	0	--	92	--	--	--	--
01...	--	--	--	160	0	--	92	--	--	--	--
01...	110	2.6	4.6	160	0	300	90	.3	8.5	709	.96
01...	--	--	--	160	0	--	90	--	--	--	--
01...	--	--	--	160	0	--	90	--	--	--	--
01...	--	--	--	160	0	--	89	--	--	--	--
01...	100	2.4	4.5	160	0	290	89	.3	9.3	688	.94
01...	--	--	--	160	0	--	89	--	--	--	--
01...	--	--	--	160	0	--	89	--	--	--	--
29...	110	2.6	4.5	150	0	300	98	.3	8.7	711	.97
29...	--	--	--	150	0	--	98	--	--	--	--
29...	--	--	--	150	0	--	98	--	--	--	--
29...	--	--	--	160	0	--	98	--	--	--	--
29...	--	--	--	160	0	--	97	--	--	--	--
29...	--	--	--	160	0	--	96	--	--	--	--
29...	--	--	--	160	0	--	94	--	--	--	--
29...	--	--	--	160	0	--	93	--	--	--	--
29...	100	2.4	4.4	160	0	290	93	.3	9.2	693	.94
29...	--	--	--	160	0	--	93	--	--	--	--
29...	--	--	--	160	0	--	93	--	--	--	--
29...	--	--	--	160	0	--	93	--	--	--	--
29...	100	2.4	4.4	160	0	300	93	.3	9.3	703	.96
29...	--	--	--	160	0	--	92	--	--	--	--
JUN											
26...	--	--	--	140	0	--	91	--	--	--	--
26...	110	2.6	4.8	140	0	320	85	.3	8.4	712	.97
26...	--	--	--	140	0	--	92	--	--	--	--
26...	--	--	--	150	0	--	92	--	--	--	--
26...	--	--	--	160	0	--	92	--	--	--	--
26...	--	--	--	160	0	--	92	--	--	--	--
26...	--	--	--	160	0	--	91	--	--	--	--
26...	100	2.4	4.6	150	0	300	91	.3	8.1	695	.95
26...	--	--	--	160	0	--	90	--	--	--	--
26...	--	--	--	160	0	--	89	--	--	--	--
26...	--	--	--	160	0	--	89	--	--	--	--
26...	--	--	--	160	0	--	88	--	--	--	--
26...	100	2.4	4.4	160	0	290	88	.3	8.2	688	.94
26...	--	--	--	160	0	--	88	--	--	--	--
JUL											
31...	--	--	--	150	0	--	93	--	--	--	--
31...	110	2.6	4.8	150	0	320	93	.4	8.4	712	.97
31...	--	--	--	150	0	--	93	--	--	--	--
31...	110	2.6	4.7	150	0	310	91	.4	8.5	716	.97
31...	--	--	--	150	0	--	91	--	--	--	--
31...	--	--	--	160	0	--	90	--	--	--	--
31...	--	--	--	160	0	--	89	--	--	--	--
31...	100	2.4	4.5	160	0	290	89	.4	8.4	688	.94
31...	--	--	--	160	0	--	89	--	--	--	--
31...	--	--	--	160	0	--	86	--	--	--	--
31...	--	--	--	160	0	--	89	--	--	--	--
31...	100	2.4	4.5	160	0	290	89	.4	8.9	689	.94
31...	--	--	--	160	0	--	88	--	--	--	--
31...	--	--	--	160	0	--	87	.3	9.2	--	--
AUG											
28...	--	--	--	130	0	--	97	--	--	--	--
28...	110	2.6	5.0	130	0	320	97	.3	8.6	717	.98
28...	--	--	--	130	0	--	96	--	--	--	--
28...	--	--	--	150	0	--	90	--	--	--	--
28...	--	--	--	150	0	--	92	--	--	--	--
28...	110	2.6	4.7	160	0	300	90	.2	8.3	709	.96
28...	--	--	--	160	0	--	89	--	--	--	--
28...	110	2.6	4.7	150	0	300	91	.2	8.5	705	.96
28...	--	--	--	160	0	--	89	--	--	--	--
28...	--	--	--	160	0	--	88	--	--	--	--
28...	--	--	--	160	0	--	89	--	--	--	--
28...	--	--	--	160	0	--	87	--	--	--	--
28...	100	2.4	4.7	160	0	290	87	.3	8.7	687	.93
28...	--	--	--	160	0	--	85	--	--	--	--

09421000 LAKE MEAD AT HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAR										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	.38	1.7	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
27...	--	.41	1.8	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
MAY										
01...	--	--	--	--	--	--	--	--	--	--
01...	--	.20	.90	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	.29	1.3	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	.34	1.5	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
29...	--	.14	.60	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	.14	--	--	.01	.03	.53	.56	.71	3.1	.010
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	.25	1.1	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	.27	1.2	--	--	--	--	--	--	--
29...	.36	--	--	.01	.03	.48	.51	.88	3.9	.050
JUN										
26...	--	--	--	--	--	--	--	--	--	--
26...	--	.11	.50	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	.27	1.2	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	.41	1.8	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
JUL										
31...	--	--	--	--	--	--	--	--	--	--
31...	--	.02	.10	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	.25	1.1	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	.27	1.2	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	.25	1.1	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
AUG										
28...	--	--	--	--	--	--	--	--	--	--
28...	.00	.02	.10	.00	.12	.98	1.1	1.1	4.9	.040
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	.32	1.4	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	.25	1.1	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	.36	1.6	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--

09421000 LAKE MEAD AT HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	ELEVATION (FT. NGVD)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
SEP											
30...	0915	.0	1205.00	1120	8.5	27.0	8.4	330	230	--	--
30...	0930	10	1195.00	1130	8.5	27.0	8.4	330	230	80	32
30...	0945	25	1180.00	1140	8.6	25.0	8.3	330	230	--	--
30...	1000	75	1130.00	1050	8.2	22.0	4.7	330	200	--	--
30...	1015	125	1080.00	1100	8.0	18.0	4.5	340	220	--	--
30...	1030	175	1030.00	1100	8.0	16.0	5.1	340	210	86	31
30...	1045	225	980.00	1090	8.0	14.5	6.2	340	210	--	--
30...	1100	275	930.00	1090	7.9	13.5	6.1	340	210	--	--
30...	1115	294	911.00	1100	8.0	12.5	6.1	340	210	--	--
30...	1130	325	880.00	1100	7.8	12.5	5.7	340	210	84	31
30...	1145	375	830.00	1100	8.0	12.5	5.7	340	210	--	--
30...	1200	425	780.00	1110	7.8	12.5	4.3	340	210	--	--
30...	1230	475	730.00	1110	7.8	12.5	3.8	330	210	84	30
30...	1300	490	715.00	1110	7.7	12.0	3.8	340	210	--	--

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
SEP											
30...	--	--	--	120	4	--	--	--	--	--	--
30...	110	2.6	5.0	120	4	320	95	.3	8.9	714	.97
30...	--	--	--	120	4	--	--	--	--	--	--
30...	--	--	--	160	0	--	--	--	--	--	--
30...	--	--	--	150	0	--	--	--	--	--	--
30...	100	2.4	4.5	160	0	300	90	.3	8.7	701	.95
30...	--	--	--	160	0	--	--	--	--	--	--
30...	--	--	--	160	0	--	--	--	--	--	--
30...	100	2.4	4.4	150	0	300	89	.3	8.7	692	.94
30...	--	--	--	160	0	--	--	--	--	--	--
30...	--	--	--	160	0	--	--	--	--	--	--
30...	100	2.4	4.5	150	0	300	90	.3	9.0	693	.94
30...	--	--	--	160	0	--	--	--	--	--	--

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)
SEP										
30...	--	--	--	--	--	--	--	--	--	--
30...	--	.02	.10	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	.41	1.8	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	.27	1.2	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	.20	.90	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV
(National stream-quality accounting network station)

LOCATION.--Lat 36°00'55", long 114°44'16", in NE¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, or SW¼NE¼ sec.29, T.22 S., R.65 E., Mount Diablo meridian, Mohave-Clark Counties, Hydrologic Unit 15030101, in powerhouse at downstream side of Hoover Dam.

DRAINAGE AREA.--171,700 mi^2 (444,700 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year (prior to April 1934, monthly discharge only, published in WSP 1313). Published as "near Willow Beach" 1933-39 and as "below Boulder Dam" 1939-45.

GAGE.--Acoustical velocity meters on each penstock in Hoover Dam. Prior to Nov. 1, 1939, water-stage recorder at site 9 mi (14 km) downstream at datum 594.8 ft (181.30 m) National Geodetic Vertical Datum of 1929. Nov. 1, 1939, to June 30, 1958, water-stage recorder at site 0.8 mi (1.3 km) downstream at datum 600.35 ft (182.987 m) National Geodetic Vertical Datum of 1929. July 1, 1958, to Nov. 7, 1979, totalizing flowmeters on each turbine.

REMARKS.--Flow regulated by Lake Mead since Feb. 1, 1935. Many diversions above station for irrigation, industrial, and municipal use.

COOPERATION.--Records furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

AVERAGE DISCHARGE.--46 years (water years 1935-80), 13,150 ft^3/s (372.4 m^3/s), 9,527,000 acre-ft/yr (11,700 hm^3/yr), unadjusted for storage in Lake Mead.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 36,000 ft^3/s (1,020 m^3/s) Jan. 28, 1942; no flow at Hoover Dam part of Feb. 10, 1935; minimum daily, 152 ft^3/s (4.30 m^3/s) Feb. 10, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 28,700 ft^3/s (813 m^3/s) May 23; minimum daily, 629 ft^3/s (17.8 m^3/s) Feb. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8760	11000	7890	4050	9960	662	21400	19500	10400	21500	23200	12300
2	12300	12600	7260	12800	6060	730	19400	22300	16300	19500	12500	23400
3	11800	6790	10700	11100	5500	6250	23100	13300	19200	16700	12800	16100
4	9040	4410	11000	10200	8520	7430	19800	11000	17700	10100	22600	25900
5	7100	9760	6800	7040	11900	11300	5330	22700	14400	10800	22900	22100
6	2810	10900	13000	4760	7620	11700	3110	24000	15100	9470	24100	9340
7	3650	11500	9010	9070	6670	16000	20000	22700	10700	18400	24700	9950
8	11600	9300	5030	13200	7620	4940	24400	23100	11900	20900	22600	15600
9	10400	10700	4740	10700	4040	5170	20400	23800	22200	17700	12800	15300
10	7930	5150	14300	9790	2460	18900	20900	10500	22500	23700	13700	16300
11	9020	5520	8160	11400	4340	19000	22300	7390	21500	23500	21700	16900
12	9660	10300	9580	4630	6790	19500	17200	20400	20700	10800	23900	19900
13	4290	13400	9550	2530	8610	24600	15200	23000	19900	8490	23200	7880
14	3360	14200	11100	5720	7740	19900	23000	26200	12000	19800	23800	7450
15	4530	9340	8740	4520	8870	12500	25100	26200	12500	20600	22900	15600
16	9580	9730	6960	4670	5210	9850	22800	27500	24100	23200	10900	17200
17	8500	4720	5870	8870	1120	19600	23000	18000	24100	22100	13300	19700
18	9610	4420	7510	14500	3140	20900	23400	14200	21900	25000	24600	15200
19	9260	12100	10300	6270	3620	21300	6760	26800	22400	13300	22700	14900
20	4050	11900	7350	5510	4120	22100	9220	18800	22100	12300	20900	6840
21	3660	14400	7440	10600	1150	19100	20600	17100	14700	24500	24600	8210
22	11500	2310	8120	6100	3040	12600	24100	20000	10800	25900	22900	15400
23	15500	4030	6610	5340	1040	11900	23900	28700	20800	25300	20500	14500
24	13300	3750	3830	4470	761	23600	23500	19600	19800	26700	19200	16400
25	14600	3920	3130	6960	1020	21400	23500	16300	19700	24200	25000	17000
26	10600	9460	16600	4040	1490	22600	12300	16300	19300	15500	15600	13700
27	4330	12900	10800	3690	1130	25800	10800	25100	23100	14700	15700	7570
28	4010	11900	7940	12500	831	22400	22500	24300	12400	22700	16100	7120
29	11500	10500	4220	8040	629	9680	19800	24600	11300	22200	18400	17000
30	7930	12800	5010	7920	---	6650	22600	25700	19300	25600	12300	18400
31	13200	---	6200	6730	---	20600	---	16300	---	24800	12000	---
TOTAL	267380	273710	254750	237720	135001	468662	569420	635390	532800	599960	602100	443160
MEAN	8625	9124	8218	7668	4655	15120	18980	20500	17760	19350	19420	14770
MAX	15500	14400	16600	14500	11900	25800	25100	28700	24100	26700	25000	25900
MIN	2810	2310	3130	2530	629	662	3110	7390	10400	8490	10900	6840
AC-FT	530300	542900	505300	471500	267800	929600	1129000	1260000	1057000	1190000	1194000	879000

CAL YR 1979 TOTAL 3892730 MEAN 10670 MAX 25900 MIN 587 AC-FT 7721000
WTR YR 1980 TOTAL 5020053 MEAN 13720 MAX 28700 MIN 629 AC-FT 9957000

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

WATER-QUALITY RECORDS

LOCATION.--Lat 36°00'38", long 114°44'31", in SW¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, Mohave County, Ariz., or in SW¼SE¼ sec.29, T.22 S., R.65 E., Mount Diablo meridian, Clark County, Nev., 0.3 mi (0.5 km) downstream from gaging station in powerhouse at downstream side of Hoover Dam.

DRAINAGE AREA.--171,800 mi² (445,000 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--October 1939 to September 1962, October 1963 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1977 to current year.
WATER TEMPERATURES: October 1941 to September 1957, October 1977 to current year.

INSTRUMENTATION.--Specific conductance and water temperature recorder October 1977 to current year.

REMARKS.--Unpublished chemical analyses for period October 1939 to September 1940, available from district office in Tucson, Ariz.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,190 micromhos Mar. 3, 1979; minimum, 912 micromhos Jan. 29, 1978.
WATER TEMPERATURES: Maximum, 15.0°C Mar. 15, 1978; minimum, 9.0°C Apr. 10, 11, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,180 micromhos June 5; minimum, 1,020 micromhos Sept. 30.
WATER TEMPERATURES: Maximum, 13.5°C Dec. 1, 4, 5, July 24, Aug. 20; minimum, 10.0°C July 1-3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
16...	0800	9020	1140	7.9	21.0	12.0	.80	8.1	3	--	--
17...	0800	--	--	--	--	--	--	--	--	<1	<1
NOV											
14...	0830	14600	1120	7.6	--	11.5	.20	--	--	--	--
DEC											
10...	0820	8260	1100	7.6	10.5	11.5	.50	6.8	--	--	--
11...	0800	--	--	--	--	--	--	--	--	<1	<1
JAN											
08...	0830	11100	1100	7.4	7.0	11.5	.00	8.1	--	<1	4
FEB											
12...	0800	7160	1120	7.7	7.5	11.0	.30	7.8	--	<1	<1
MAR											
11...	0800	20500	1100	7.8	12.0	11.5	.60	8.2	--	--	--
12...	1300	--	--	--	--	--	--	--	--	<1	<1
APR											
08...	0800	27800	1120	7.8	13.0	11.5	.00	7.9	--	<1	<1
MAY											
13...	0800	24500	1150	7.8	22.0	12.0	1.6	7.7	--	--	--
14...	0800	--	--	--	--	--	--	--	--	<1	1
JUN											
10...	0830	28900	1180	7.7	31.0	13.0	1.2	8.3	--	<1	<1
11...	0800	--	--	--	--	--	--	--	--	<1	1
JUL											
08...	0800	21600	1130	7.9	30.0	12.5	.60	7.6	--	--	--
09...	0800	--	--	--	--	--	--	--	--	<1	5
AUG											
12...	0800	27200	1120	8.0	36.0	13.0	.20	7.8	--	--	--
13...	0800	--	--	--	--	--	--	--	--	<1	<1
SEP											
10...	0800	17800	1150	7.8	19.5	12.5	.20	7.2	--	<1	<1

< Actual value is known to be less than value shown.

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT											
16...	330	200	84	30	99	2.4	5.2	130	310	94	.5
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	310	180	78	27	97	2.4	5.3	130	290	83	.4
DEC											
10...	320	190	83	28	100	2.4	4.6	130	260	87	.3
11...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	330	200	84	29	110	2.6	5.1	130	290	89	.3
FEB											
12...	320	200	83	28	98	2.4	4.8	120	300	90	.3
MAR											
11...	340	210	86	31	110	2.6	5.1	130	310	87	.4
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	330	200	84	29	100	2.4	4.9	130	300	88	.3
MAY											
13...	330	210	84	30	110	2.6	4.3	120	300	89	.3
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	340	220	83	31	110	2.6	5.1	120	310	92	.3
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	330	200	83	30	110	2.6	5.6	130	300	93	.4
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	330	200	85	29	110	2.6	5.6	130	300	95	.5
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	340	220	88	30	100	2.3	5.8	120	310	94	.4

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
OCT											
16...	9.3	745	712	1.01	.38	.01	.08	.01	1.2	1.1	1.2
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	8.6	721	670	.98	.48	.02	.04	.02	.60	--	.62
DEC											
10...	8.9	728	652	.99	.44	.01	.01	.01	.99	.83	1.0
11...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	9.1	720	696	.98	.38	.04	.01	.05	.81	.68	.85
FEB											
12...	8.8	739	687	1.01	.30	.01	.01	.01	.44	.40	.45
MAR											
11...	8.5	734	718	1.00	.36	.20	.06	.24	.49	.50	.69
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	8.6	728	694	.99	.34	.27	.18	.33	.33	.32	.60
MAY											
13...	9.0	716	700	.97	.29	.00	.00	.00	.46	.44	.46
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	8.6	735	714	1.00	.33	.04	.03	.05	.96	.96	1.0
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	8.8	727	711	.99	.36	.00	.00	.00	.62	.40	.62
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	8.7	737	714	1.00	.37	.00	.00	.00	1.1	.25	1.1
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	8.5	721	710	.98	.35	.06	.05	.07	.49	.44	.55

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DISSOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE DISSOL. (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)
OCT											
16...	.00	1.2	1.6	1.6	7.0	.010	.03	.010	.02	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	--	--	1.1	--	5.0	.020	.06	.020	--	5	3
DEC											
10...	.16	.84	1.5	1.3	6.5	.310	.95	.010	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	.16	.69	1.2	1.1	5.4	.010	.03	.000	--	--	--
FEB											
12...	.04	.41	.79	.71	3.5	.010	.03	.000	--	4	4
MAR											
11...	.13	.56	1.0	.92	4.6	.280	.86	.010	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	.10	.50	.95	.84	4.2	.030	.09	.030	--	--	--
MAY											
13...	.02	.44	.80	.73	3.5	.040	.12	.010	--	4	4
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	.01	.99	1.3	1.3	5.9	.020	.06	.030	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	.22	.40	1.0	.76	4.5	.000	.00	.010	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	.85	.25	1.5	.62	6.5	.020	.06	.020	--	5	4
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	.06	.49	.96	.84	4.3	.020	.06	.000	--	--	--

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT											
16...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	400	100	0	2	0	0	2	<3	2	0	40
DEC											
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	0	100	0	<1	10	0	0	<3	2	0	40
MAR											
11...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	--	--	--	--	--	--	--	--	--	--	--
MAY											
13...	100	100	0	2	0	0	0	<3	2	3	70
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	200	100	0	<1	0	10	0	<3	2	1	40
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	--	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
OCT											
16...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	<10	3	0	10	<1	.1	.0	5	0	1	0
DEC											
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	20	0	1	0	2	.0	.0	2	0	3	3
MAR											
11...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	--	--	--	--	--	--	--	--	--	--	--
MAY											
13...	<10	1	0	10	2	.0	.0	3	2	3	3
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	<10	1	1	10	<1	.0	.0	3	2	3	3
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)
OCT											
16...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	0	0	20	4	--	--	--	--	--	--	--
DEC											
10...	0	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	0	0	10	8	--	--	--	--	--	--	--
MAR											
11...	6	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	--	--	--	--	--	--	--	--	--	--	--
MAY											
13...	0	0	40	<3	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	0	--	--	--	<11	<7.5	<.4	<.3	6.9	.8	6.7
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	<13	<8.8	<.4	<.3	5.9	.6	5.7
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	0	0	30	4	<9.9	--	<.4	--	--	--	7.4
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	0	--	--	--	18	12	<.4	<.3	6.2	.8	6.0

< Actual value is known to be less than value shown.

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUORUM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUORUM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT											
16...	--	2.4	--	--	--	--	--	--	--	0	.00
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	--	--	3.4	--	--	--	--	--	--	2	79
DEC											
10...	--	9.5	--	--	--	--	--	--	--	2	45
11...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	7.4	--	--	--	--	--	--	--	2	60
FEB											
12...	--	--	3.3	.1	10.4	8.50	17.6	108	1.89	0	.00
MAR											
11...	--	5.3	--	--	--	--	--	--	--	0	.00
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	--	4.4	--	--	--	--	--	--	--	1	75
MAY											
13...	--	--	5.6	.1	.472	.315	341	.460	.100	1	66
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	.8	9.7	--	--	--	--	--	--	--	1	78
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	.6	3.4	--	--	30.5	26.0	58.7	76.7	.000	1	58
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	.6	--	3.6	.0	1.97	1.34	235	2.68	1.37	1	73
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	.8	3.1	--	--	--	--	--	--	--	0	.00

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	1120	1110	1100	1090	1120	1060	1100	1090
2	---	---	---	---	---	---	1100	1100	1120	1110	1100	1090
3	---	---	---	---	1120	1110	1100	1090	1120	1110	1100	1100
4	---	---	---	---	1120	1110	1110	1090	1120	1100	1110	1100
5	---	---	---	---	1120	1110	1100	1090	1120	1110	1110	1090
6	---	---	---	---	1120	1110	1100	1100	1110	1100	1110	1090
7	---	---	---	---	1110	1090	1100	1090	1120	1100	1110	1100
8	---	---	---	---	1090	1080	1100	1090	1120	1110	1120	1100
9	---	---	---	---	1090	1090	1090	1080	1120	1100	1120	1100
10	---	---	---	---	1090	1080	1100	1090	1110	1090	1110	1100
11	---	---	---	---	1100	1090	1110	1090	1110	1090	1110	1100
12	---	---	---	---	1100	1090	1100	1090	1120	1100	1110	1090
13	---	---	---	---	1100	1090	1110	1090	1110	1100	1110	1110
14	---	---	---	---	1100	1090	1100	1090	1120	1100	1110	1100
15	---	---	---	---	1100	1090	1110	1090	1110	1090	1110	1100
16	---	---	1110	1100	1100	1090	1100	1090	1110	1090	1120	1100
17	---	---	---	---	1100	1090	1100	1090	1110	1100	1120	1110
18	---	---	---	---	1100	1090	1100	1090	1100	1100	1110	1100
19	---	---	---	---	1100	1090	1100	1090	1100	1100	1110	1100
20	---	---	---	---	1100	1090	1110	1100	1110	1100	1110	1100
21	---	---	---	---	1100	1090	1110	1100	1110	1090	1120	1040
22	---	---	---	---	1100	1090	1110	1100	1110	1100	1120	1100
23	---	---	---	---	1100	1090	1110	1100	1110	1100	1110	1080
24	1080	1070	---	---	1100	1090	1110	1090	1120	1100	1110	1080
25	---	---	---	---	1100	1090	1110	1100	1110	1100	1120	1090
26	1090	1080	---	---	1100	1080	1100	1090	1110	1090	1120	1090
27	---	---	---	---	1100	1090	1100	1090	1100	1080	1120	1100
28	---	---	---	---	1100	1090	1100	1090	1100	1090	1120	1110
29	---	---	---	---	1100	1100	1100	1090	1100	1080	1120	1110
30	---	---	---	---	1100	1100	1120	1090	---	---	1120	1100
31	1100	1090	---	---	1100	1090	1130	1110	---	---	1120	1110
MONTH	1100	1070	1110	1100	1120	1080	1130	1080	1120	1060	1120	1040

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1120	1110	1130	1120	1130	1120	1120	1110	1130	1100	---	---
2	1120	1110	1130	1120	1130	1120	1120	1110	1120	1090	---	---
3	1120	1110	1130	1120	1140	1120	1120	1110	1100	1090	---	---
4	1120	1110	1130	1120	1170	1120	1120	1110	1120	1100	---	---
5	1120	1100	1160	1130	1180	1120	1120	1110	1100	1100	---	---
6	1120	1100	1160	1120	1150	1120	1120	1110	1100	1100	---	---
7	1120	1110	1140	1120	1130	1120	1120	1110	1100	1100	---	---
8	1120	1110	1130	1120	1120	1120	1110	1100	1100	1100	---	---
9	1120	1110	1130	1120	1130	1120	1130	1100	1110	1100	1110	1100
10	1120	1110	1130	1120	1130	1120	1120	1100	1110	1100	1100	1090
11	1120	1110	1130	1120	1150	1120	1100	1100	1120	1100	1100	1090
12	1120	1110	1130	1120	1150	1130	1100	1100	1120	1110	1100	1100
13	1120	1110	1130	1120	1160	1080	1100	1090	1120	1110	1100	1090
14	1120	1110	1130	1120	1150	1120	---	---	1120	1110	1100	1090
15	1120	1110	1130	1120	1140	1120	1100	1100	1120	1100	1100	1090
16	1120	1110	1160	1130	1140	1120	1100	1100	1120	1100	1110	1090
17	1120	1110	1170	1130	1140	1120	1100	1100	1120	1110	1100	1090
18	1120	1120	1160	1120	1120	1120	1110	1100	1110	1110	1100	1090
19	1120	1110	1160	1120	1120	1120	1120	1100	1120	1100	1110	1090
20	1120	1110	1150	1120	1120	1120	1110	1100	1110	1110	1110	1090
21	1120	1110	1130	1120	1120	1120	1110	1100	1110	1110	1100	1090
22	1130	1110	1130	1120	1120	1110	1100	1100	1110	1110	1100	1090
23	1130	1120	1130	1120	1120	1110	1120	1090	1110	1100	1100	1090
24	1130	1120	1130	1110	1120	1110	1120	1110	1110	1100	1100	1090
25	1130	1120	1130	1110	1120	1110	1120	1110	1120	1110	1100	1090
26	1150	1120	1120	1120	1120	1110	1130	1100	1120	1110	1100	1090
27	1150	1120	1120	1120	1120	1110	1120	1100	1120	1110	1100	1090
28	1130	1120	1130	1120	1120	1110	1130	1100	1110	1110	1100	1080
29	1130	1120	1120	1120	1120	1110	1120	1110	---	---	1100	1020
30	1130	1120	1130	1120	1120	1110	1130	1110	---	---	1130	1090
31	---	---	1130	1120	---	---	1130	1110	---	---	---	---
MONTH	1150	1100	1170	1110	1180	1080	1130	1090	1130	1090	1130	1020
YEAR	1180	1020										

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	12.5	11.5	11.0	11.5	11.0	11.5	11.5
2	---	---	---	---	---	---	11.5	11.0	11.5	11.5	11.5	11.0
3	---	---	---	---	---	12.5	11.5	11.0	11.5	11.5	11.5	10.5
4	---	---	---	---	---	12.5	11.5	11.0	12.0	11.0	11.5	11.0
5	---	---	---	---	---	12.5	11.5	11.0	11.5	11.0	11.5	11.0
6	---	---	---	---	---	12.5	11.5	11.0	11.5	11.0	11.5	10.5
7	---	---	---	---	---	11.5	11.5	11.0	12.0	11.0	11.5	11.0
8	---	---	---	---	12.5	11.5	11.5	11.0	12.0	11.5	12.5	11.5
9	---	---	---	---	12.5	11.5	11.5	11.0	12.0	11.5	12.5	11.5
10	---	---	---	---	12.0	11.5	11.5	11.0	12.0	11.0	12.0	11.0
11	---	---	---	---	12.0	11.5	11.5	11.0	12.0	11.0	11.5	11.0
12	---	---	---	---	12.0	11.0	11.5	11.0	12.0	11.0	11.5	11.5
13	---	---	---	---	12.0	11.5	12.0	11.0	11.5	11.0	11.5	11.5
14	---	---	---	---	12.0	11.5	11.5	11.0	11.5	11.0	11.5	11.0
15	---	---	---	---	12.0	11.5	12.0	11.0	11.0	11.0	11.5	11.0
16	---	---	12.5	12.0	12.0	11.5	11.5	11.0	11.5	11.0	12.0	11.5
17	---	---	---	---	12.0	11.5	11.0	11.0	11.5	11.0	12.0	11.5
18	---	---	---	---	12.0	11.5	11.0	10.5	11.5	11.0	11.5	11.0
19	---	---	---	---	12.0	11.5	11.5	10.5	11.5	10.5	11.5	11.0
20	---	---	---	---	12.0	11.5	11.5	11.0	12.0	11.0	11.5	11.0
21	---	---	---	---	12.0	11.0	11.5	11.0	11.5	11.0	11.5	11.0
22	---	---	---	---	11.5	11.0	11.5	11.0	11.5	11.0	12.0	11.5
23	---	---	---	---	11.5	11.0	12.0	11.0	12.0	11.5	11.5	11.0
24	12.0	11.5	---	---	11.5	11.0	11.5	11.0	12.0	11.0	11.5	11.0
25	---	---	---	---	11.5	11.0	11.5	11.0	12.0	11.0	11.5	11.0
26	12.5	11.5	---	---	11.5	11.0	11.5	11.0	12.0	11.0	11.5	11.0
27	---	---	---	---	11.5	11.0	11.5	11.0	12.0	11.0	11.5	11.0
28	---	---	---	---	11.5	11.0	11.5	11.0	11.5	11.0	11.5	11.0
29	---	---	---	---	11.5	11.0	11.0	11.0	12.0	11.0	12.0	11.0
30	---	---	---	---	11.5	11.0	12.0	11.0	---	---	12.0	11.0
31	---	---	---	---	11.5	11.0	12.0	11.5	---	---	12.0	11.0
MONTH	12.5	11.5	12.5	12.0	12.5	11.0	12.0	10.5	12.0	10.5	12.5	10.5

09421500 COLORADO RIVER BELOW HOOVER DAM, AZ-NV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	11.0	12.0	11.5	11.5	11.0	11.5	10.0	12.0	11.5	---	---
2	11.5	11.0	12.0	11.5	11.0	10.5	11.5	10.0	11.5	11.0	---	---
3	11.5	11.5	12.0	11.5	11.5	10.5	11.0	10.0	12.5	11.5	---	---
4	11.5	11.0	12.0	11.5	11.5	11.0	11.0	10.5	12.0	11.0	---	---
5	12.0	11.5	12.0	11.5	11.5	10.5	11.5	10.5	11.5	11.0	---	---
6	12.0	11.5	12.0	11.5	11.5	11.0	11.5	10.5	12.0	11.0	---	---
7	12.0	11.5	12.5	11.5	11.5	11.0	12.0	11.0	12.0	11.5	---	---
8	12.0	11.5	12.0	11.5	11.0	10.5	12.5	11.5	12.0	11.5	---	---
9	12.0	11.0	11.5	11.0	11.0	11.0	13.0	11.5	12.5	11.5	11.0	11.0
10	11.5	11.0	12.0	11.5	12.5	11.0	12.0	11.5	12.5	11.5	11.0	11.0
11	12.0	11.5	12.0	11.5	12.5	11.5	12.0	11.0	12.5	10.5	11.5	10.5
12	11.5	11.0	11.5	11.5	12.0	11.0	13.0	11.5	11.5	10.5	11.0	10.5
13	11.5	11.5	11.5	11.0	12.5	11.0	12.5	12.0	11.5	10.5	11.0	11.0
14	11.5	11.5	12.0	11.0	12.0	11.0	---	---	11.5	11.0	11.5	11.0
15	11.5	11.5	11.5	11.0	12.0	11.0	12.5	11.5	11.0	10.5	11.5	11.0
16	11.5	11.5	11.5	11.0	11.5	11.0	12.0	11.5	11.0	11.0	11.5	11.0
17	11.5	11.5	11.5	11.0	11.0	10.5	12.5	11.5	11.0	10.5	11.5	11.0
18	12.0	11.5	11.5	11.0	12.0	10.5	12.5	11.5	11.5	11.0	11.5	11.0
19	12.0	11.5	11.5	11.0	12.0	11.0	13.0	11.5	11.5	11.0	---	11.0
20	12.0	11.5	11.5	11.0	12.0	11.0	12.5	12.0	13.5	11.0	12.0	11.0
21	12.0	11.5	11.5	11.0	12.0	11.5	13.0	12.0	12.0	11.0	11.5	11.0
22	12.0	11.5	11.5	11.0	12.0	11.0	13.0	12.0	12.5	11.0	12.0	11.0
23	12.0	11.5	11.5	11.0	12.0	10.5	13.0	11.5	12.0	11.0	---	11.0
24	12.0	11.5	11.5	11.0	11.5	10.5	13.5	12.0	11.5	11.0	---	11.0
25	12.0	11.5	12.0	11.0	12.0	10.5	13.0	12.0	11.5	11.0	12.0	11.0
26	12.0	11.5	11.5	11.0	12.5	11.0	13.0	12.0	12.5	11.5	11.5	11.0
27	12.0	11.5	11.5	11.0	12.0	11.0	12.5	11.5	11.5	11.5	12.0	11.0
28	12.0	11.5	11.5	11.0	13.0	11.5	13.0	12.0	11.5	11.5	---	11.0
29	12.0	11.5	11.5	11.0	13.0	11.5	13.0	11.5	---	---	---	11.0
30	12.0	11.5	11.0	11.0	12.0	11.0	12.5	12.0	---	---	11.5	11.0
31	---	---	11.5	11.0	---	---	13.0	11.5	---	---	---	---
MONTH	12.0	11.0	12.5	11.0	13.0	10.5	13.5	10.0	13.5	10.5	12.0	10.5
YEAR	13.5	10.0										

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAR 11,80	MAY 13,80	JUN 10,80	JUL 8,80	AUG 12,80	SEP 10,80
TIME	0800	0800	0830	0800	0800	0800
TOTAL CELLS/ML	690	700	2200	1900	1100	3100
DIVERSITY: DIVISION	0.0	0.0	0.1	0.4	0.2	0.1
.CLASS	0.0	0.0	0.1	0.4	0.2	0.1
..ORDER	0.0	0.7	0.1	0.5	0.2	0.1
...FAMILY	0.0	0.7	0.8	0.5	0.2	0.1
....GENUS	0.0	0.7	0.8	0.5	0.2	0.1

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...OOCYSTACEAE												
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-	3100#	99
...SCENEDESMACEAE												
....CRUCIGENIA	--	-	--	-	--	-	100	5	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	--	-	--	-	13	1	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	--	-	--	-	--	-	13	1	13	1	--	-
..PENNALES												
...DIATOMACEAE												
....DIATOMA	--	-	--	-	--	-	13	1	--	-	--	-
...NAVICULACEAE												
....NAVICULA	--	-	--	-	13	1	--	-	13	1	--	-
...NITZSCHIACEAE												
....NITZSCHIA	--	-	--	-	13	1	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	140#	20	--	-	--	-	--	-	*	0
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	390#	17	--	-	--	-	--	-
...OSCILLATORIACEAE												
....OSCILLATORIA	690#	100	560#	80	1800#	81	1800#	93	1100#	98	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

09422500 LAKE MOHAVE AT DAVIS DAM, AZ-NV

LOCATION.--Lat 35°11'50", long 114°34'07", in SW¼SW¼ sec.18, T.21 N., R.21 W., Gila and Salt River meridian, Mohave County, Hydrologic Unit 15030101, on forebay structure on Arizona side of Davis Dam on Colorado River, 29 mi (47 km) west of Kingman, Ariz., and 67 mi (108 km) downstream from Hoover Dam.

DRAINAGE AREA.--173,300 mi^2 (448,800 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--January 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill and rockfill dam; dam completed in April 1949 and storage began Jan. 17, 1950. Usable capacity, 1,810,000 acre-ft (2,230 hm^3) between elevations 533.39 ft (162.577 m)—lowest point of penstock outlet—and 647.0 ft (197.21 m)—top of spillway gates. A small amount of additional storage is available through use of splashboards on the spillway gates. Dead storage, 8,530 acre-ft (10.5 hm^3) below elevation 533.39 ft (162.577 m). Lake is used for power development, re-regulation for irrigation demand, and to satisfy requirements of the Treaty of 1944 with Mexico. Figures given herein represent usable contents.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,811,000 acre-ft (2,230 hm^3) May 24, 1958, May 29, 1963; maximum elevation, 647.04 ft (197.218 m) May 29, 1963; minimum contents (since 1952), 1,168,000 acre-ft (1,440 hm^3) Sept. 8, 1953, elevation, 622.15 ft (189.631 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,768,000 acre-ft (2,180 hm^3) May 31, elevation, 645.49 ft (196.745 m); minimum contents, 1,361,000 acre-ft (1,680 hm^3) Oct. 22, elevation 630.08 ft (192.048 m).

Capacity table (elevation, in feet, and usable contents, in acre-feet)

630	1,359,000	641	1,644,000
632	1,409,000	644	1,726,000
635	1,486,000	647	1,810,000
638	1,564,000		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1423000	1424000	1535000	1637000	1747000	1656000	1634000	1564000	1747000	1592000	1570000	1526000
2	1428000	1433000	1542000	1648000	1748000	1656000	1637000	1580000	1741000	1590000	1560000	1534000
3	1431000	1432000	1549000	1658000	1746000	1613000	1646000	1577000	1745000	1582000	1549000	1531000
4	1430000	1426000	1558000	1670000	1751000	1609000	1648000	1569000	1747000	1564000	1553000	1547000
5	1427000	1431000	1558000	1676000	1758000	1608000	1625000	1583000	1736000	1546000	1559000	1556000
6	1412000	1437000	1568000	1677000	1762000	1599000	1596000	1603000	1737000	1524000	1567000	1541000
7	1401000	1447000	1571000	1685000	1758000	1599000	1593000	1615000	1726000	1522000	1577000	1528000
8	1405000	1454000	1567000	1698000	1752000	1572000	1600000	1629000	1704000	1526000	1581000	1524000
9	1408000	1462000	1565000	1709000	1737000	1546000	1600000	1639000	1708000	1524000	1569000	1522000
10	1405000	1458000	1578000	1722000	1725000	1553000	1602000	1624000	1717000	1537000	1556000	1517000
11	1404000	1459000	1585000	1733000	1713000	1574000	1604000	1603000	1727000	1542000	1557000	1514000
12	1407000	1465000	1585000	1733000	1705000	1597000	1592000	1605000	1719000	1526000	1564000	1516000
13	1399000	1476000	1588000	1728000	1708000	1618000	1575000	1616000	1715000	1505000	1544000	1496000
14	1390000	1492000	1594000	1729000	1720000	1624000	1576000	1634000	1698000	1502000	1577000	1480000
15	1380000	1497000	1595000	1732000	1730000	1618000	1580000	1652000	1680000	1500000	1582000	1477000
16	1385000	1500000	1596000	1731000	1738000	1608000	1580000	1674000	1684000	1500000	1566000	1478000
17	1383000	1492000	1592000	1738000	1737000	1613000	1578000	1675000	1690000	1502000	1552000	1486000
18	1385000	1489000	1589000	1756000	1739000	1621000	1579000	1671000	1691000	1508000	1549000	1485000
19	1384000	1498000	1593000	1761000	1744000	1623000	1548000	1690000	1690000	1494000	1554000	1484000
20	1374000	1508000	1597000	1760000	1744000	1631000	1550000	1693000	1693000	1477000	1558000	1470000
21	1364000	1522000	1605000	1765000	1742000	1638000	1517000	1694000	1685000	1480000	1563000	1456000
22	1368000	1514000	1610000	1760000	1742000	1632000	1523000	1698000	1670000	1491000	1568000	1456000
23	1383000	1506000	1612000	1750000	1744000	1625000	1531000	1719000	1668000	1502000	1568000	1453000
24	1394000	1497000	1609000	1745000	1742000	1635000	1541000	1724000	1661000	1515000	1569000	1454000
25	1408000	1492000	1605000	1739000	1740000	1643000	1547000	1720000	1652000	1524000	1579000	1457000
26	1414000	1497000	1623000	1728000	1733000	1652000	1533000	1718000	1642000	1517000	1572000	1455000
27	1406000	1506000	1635000	1719000	1722000	1667000	1518000	1732000	1641000	1506000	1562000	1442000
28	1401000	1515000	1641000	1725000	1707000	1672000	1524000	1742000	1618000	1512000	1553000	1429000
29	1408000	1522000	1638000	1730000	1684000	1657000	1534000	1751000	1591000	1525000	1554000	1437000
30	1407000	1534000	1639000	1739000	---	1639000	1552000	1765000	1585000	1545000	1545000	1445000
31	1420000	---	1638000	1737000	---	1638000	---	1762000	---	1558000	1536000	---
MAX	1431000	1534000	1641000	1765000	1762000	1672000	1648000	1765000	1747000	1592000	1582000	1556000
MIN	1364000	1424000	1535000	1637000	1684000	1546000	1517000	1564000	1585000	1477000	1536000	1429000
(†)	632.43	636.83	640.78	644.40	642.45	640.77	637.55	645.27	638.77	637.78	636.93	633.40
(‡)	-8000	+114000	+104000	+99000	-53000	-46000	-86000	+210000	-177000	-27000	-22000	-91000

CAL YR 1979 MAX 1757000 MIN 1364000 ‡ -44000
WTR YR 1980 MAX 1765000 MIN 1364000 ‡ +17000

† Elevation, in feet, at end of month.
‡ Change in storage, in acre-feet.

09423000 COLORADO RIVER BELOW DAVIS DAM, AZ-NV

LOCATION.--Lat 35°11'30", long 114°34'17", in SE¼NE¼ sec.1, T.32 S., R.66 E., Mount Diablo meridian, in Nevada, Clark County, Hydrologic Unit 15030101, on right bank 0.5 mi (0.8 km) downstream from Davis Dam, 29 mi (47 km) west of Kingman, Ariz., and 68 mi (109 km) downstream from Hoover Dam.

DRAINAGE AREA.--173,300 mi^2 (448,800 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1905 to September 1907 (published as "at Hardyville"), March 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 490.00 ft (149.352 m), National Geodetic Vertical Datum of 1929; gage readings have been reduced to elevations NGVD since Oct. 1, 1967. 1905-7, nonrecording gage at site 4.8 mi (7.7 km) downstream at datum about 3.4 ft (1.04 m) lower. Mar. 16 to May 3, 1949, water-stage recorder at site 0.5 mi (0.8 km) downstream at datum 10.00 ft (3.048 m) higher. May 4, 1949, to Feb. 24, 1956, water-stage recorder at site 400 ft (120 m) upstream at datum 10.00 ft (3.048 m) higher. Feb. 25, 1956, to Sept. 30, 1967, water-stage recorder at present site at datum 10.00 ft (3.048 m) higher.

REMARKS.--Records good. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950. Many diversions upstream for irrigation, industrial, and municipal uses.

AVERAGE DISCHARGE.--31 years (water years 1950-80), 12,440 ft^3/s (352.3 m^3/s), 9,013,000 acre-ft/yr (11,100 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--1905-7: Maximum daily discharge, 116,000 ft^3/s (3,290 m^3/s) June 20, 1906; minimum daily, 2,850 ft^3/s (80.7 m^3/s) Jan. 5, 1906.
1949-80: Maximum discharge, 31,200 ft^3/s (884 m^3/s) Apr. 22, 1952, elevation, 513.91 ft (156.640 m); no flow at Davis Dam parts of several days July to September 1950 and Dec. 27, 1950, when gates in dam were closed; minimum daily discharge, 285 ft^3/s (8.07 m^3/s) Aug. 3, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,900 ft^3/s (790 m^3/s) July 28, elevation, 506.50 ft (154.381 m); minimum daily 1,980 ft^3/s (56.1 m^3/s) Feb. 17, 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11800	7850	6570	5630	6780	15300	23700	13400	17700	20400	18100	16100
2	10900	7630	4070	5580	6460	15000	18700	14300	18000	19400	18200	17600
3	10800	8110	6550	5630	6160	15500	18400	15900	17200	20200	18300	18100
4	10700	7240	6300	4040	6610	10300	18700	15600	17000	20400	20200	18000
5	10400	7650	7000	3700	7260	11700	18800	15100	19600	20400	20300	18300
6	10400	7650	6590	3620	7720	16200	19000	14500	21100	20500	19300	17700
7	10300	6300	7500	4710	8410	18600	21000	17300	22100	19600	20200	16800
8	10200	5760	7520	6300	10100	20000	20800	15800	19200	16500	20500	17800
9	10100	7130	5650	5320	11600	19700	20800	16800	15000	18600	20600	17900
10	10100	7130	6480	3490	9230	15100	19600	19800	17100	16500	20600	18600
11	10100	6040	7260	5250	10600	8250	21800	18800	17700	20000	20800	18700
12	9220	6760	7410	4820	11100	6140	23500	20800	23800	19900	20300	19200
13	9080	6820	7100	4990	7240	12300	23000	16800	21600	19900	20400	19000
14	8240	6320	7950	5630	4230	17200	23200	17700	21300	21400	21000	17200
15	9340	6890	7740	3490	3490	17100	23000	16800	21900	22300	19900	17200
16	7680	7810	6850	5400	2010	15200	23900	16100	21100	21400	21600	17600
17	9630	8310	8360	3860	1980	15000	24100	18600	21100	21200	20200	16300
18	8660	5940	8400	5220	2220	15700	24100	15700	21400	21500	20700	18100
19	10200	7410	8220	5680	2000	20200	24100	16000	22800	21500	20800	16400
20	11200	6300	5560	6500	4280	18100	21600	17600	20000	21500	20400	15100
21	9370	8970	3380	7450	2020	16100	23000	16400	19000	21500	20900	16300
22	9390	7190	6060	7500	1980	15500	22100	17300	18100	21400	21000	15300
23	8120	7830	5540	8580	1980	15500	21000	17300	21500	19600	21000	16100
24	7580	8150	5470	7710	1990	18100	19000	17700	23000	19800	18900	16300
25	7480	8220	5480	8750	1990	17400	20800	17700	23600	20100	20300	15900
26	8910	6060	6590	9210	5750	17600	21200	16900	24400	19800	20600	15400
27	8530	7920	5620	8660	6880	16400	19300	17700	23500	20100	20600	15400
28	7600	6070	5020	8980	8490	19000	19300	17900	25300	19800	21100	14800
29	8620	6850	5890	5880	13900	18600	15100	18500	25100	15900	19700	13000
30	7130	5450	5010	4000	---	17200	15000	19000	23700	15600	17100	14800
31	7310	---	5890	5940	---	19100	---	18700	---	16300	16100	---
TOTAL	289090	211760	199030	181520	174460	495090	628000	530500	624500	615000	619900	503000
MEAN	9325	7059	6420	5855	6016	15970	20930	17110	20820	19840	20000	16770
MAX	11800	8310	8400	9210	13900	20200	24100	20800	25300	22300	21600	19200
MIN	7130	5450	3380	3490	1980	6140	15000	13400	15000	15600	16100	13000
AC-FT	573400	420000	394800	360000	346000	982000	1246000	1052000	1239000	1220000	1230000	997700

CAL YR 1979 TOTAL 4053580 MEAN 11110 MAX 19400 MIN 1940 AC-FT 8040000
WTR YR 1980 TOTAL 5071650 MEAN 13860 MAX 25300 MIN 1960 AC-FT 10060000

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0950	13700	1100	7.7	17.0	320	200	79	29	110	2.7	5.7
NOV												
01...	1450	10700	1120	8.0	17.0	310	190	75	29	100	2.5	5.7
DEC												
03...	1445	4990	1120	7.8	17.0	320	200	80	29	110	2.7	5.3
JAN												
02...	1030	6700	1120	7.9	10.5	320	150	78	30	110	2.7	5.4
FEB												
01...	1200	8130	1110	7.9	11.0	320	200	79	29	110	2.7	5.0
MAR												
04...	0900	14300	1120	8.2	10.0	320	190	80	30	86	2.1	4.7
APR												
01...	0800	24400	1120	8.2	11.0	330	200	84	30	110	2.6	5.2
MAY												
01...	0815	15900	1110	7.8	14.0	320	190	82	29	110	2.7	5.3
JUN												
02...	1330	23800	1140	--	18.0	350	210	86	32	110	2.6	5.5
JUL												
01...	1700	24800	1120	7.9	19.0	330	200	82	30	110	2.6	5.6
AUG												
01...	0845	13300	1120	8.0	--	340	210	85	31	110	2.6	6.0
SEP												
02...	1300	26400	1130	7.9	19.0	330	220	81	30	110	2.7	5.5

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
01...	120	300	90	.3	8.5	647	696	.88	.33	160	10
NOV											
01...	120	290	92	.4	8.7	726	674	.99	.17	160	<10
DEC											
03...	120	300	92	.3	8.4	745	698	1.01	.14	130	<10
JAN											
02...	170	250	98	.4	8.2	752	683	1.02	.21	190	<10
FEB											
01...	120	290	90	.3	8.2	696	685	.95	.17	130	<10
MAR											
04...	130	290	93	.3	8.7	738	671	1.00	.11	120	20
APR											
01...	130	300	88	.4	9.1	723	705	.98	.09	160	60
MAY											
01...	130	290	90	.4	8.3	729	695	.99	.27	140	30
JUN											
02...	140	300	98	.3	8.8	733	726	1.00	.23	140	<10
JUL											
01...	130	310	94	.9	9.0	752	721	1.02	.20	190	<10
AUG											
01...	130	310	98	.5	9.1	744	729	1.01	.21	150	<10
SEP											
02...	110	310	98	.5	8.4	791	710	1.08	.17	120	<10

< Actual value is known to be less than value shown.

09423500 COLORADO RIVER AT NEEDLES, CA

LOCATION.--Lat 34°51'06", long 114°36'33", in SE¼SE¼ sec.19, T.9 N., R.23 E., San Bernardino meridian, San Bernardino County, Hydrologic Unit 15030101, on right bank at Needles, 15 mi (24 km) upstream from gaging station near Topock, Ariz., 30 mi (48 km) downstream from Davis Dam, and 97 mi (156 km) downstream from Hoover Dam.

DRAINAGE AREA.--174,500 mi^2 (452,000 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--April 1931 to current year (elevations only).

REVISED RECORDS.--WSP 1119: 1931-47.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft (121.920 m) National Geodetic Vertical Datum of 1929. Prior to May 15, 1942, at site 550 ft (170 m) downstream and May 15, 1942, to Feb. 16, 1969, at site 200 ft (60 m) upstream; at datum 66.23 ft (20.187 m) higher prior to Jan. 12, 1952, and at present datum thereafter.

REMARKS.--Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 475.77 ft (145.015 m) Nov. 30, 1944; minimum, 457.84 ft (139.550 m) Feb. 26, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 470.12 ft (143.293 m) July 5; minimum, 458.73 ft (139.821 m) Jan. 16.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	463.60	461.77	460.76	460.77	461.57	466.12	468.51	465.41	467.14	468.39	466.51	466.78
2	463.33	461.65	460.84	460.71	461.45	465.50	468.50	464.99	467.17	467.75	466.82	466.63
3	463.53	461.85	460.62	460.62	460.99	465.47	466.38	465.26	467.06	467.62	466.76	466.49
4	463.42	461.95	461.29	460.24	460.87	464.47	467.67	465.67	466.20	468.06	467.52	466.81
5	463.18	461.68	460.93	459.75	461.56	463.46	467.28	465.78	467.40	468.13	467.86	466.85
6	463.26	461.77	461.56	459.43	461.40	464.91	467.37	465.02	467.73	---	467.30	466.85
7	463.25	461.77	461.73	459.37	462.18	466.36	467.42	465.81	469.55	---	467.78	466.36
8	463.19	461.02	461.87	460.59	462.35	468.03	468.25	465.88	467.93	---	467.73	466.56
9	463.17	461.04	461.38	460.95	463.67	467.92	468.01	466.43	467.50	---	467.98	466.56
10	463.11	461.53	460.82	460.00	462.97	467.30	468.14	467.10	463.72	---	467.88	466.91
11	463.22	461.51	461.40	459.88	462.89	462.82	468.00	467.90	467.33	---	467.97	466.97
12	463.07	460.96	461.99	460.20	463.58	462.45	469.62	467.23	468.84	---	467.74	467.36
13	462.68	461.34	461.32	460.48	463.57	462.92	469.12	466.77	468.66	---	467.75	467.06
14	462.58	461.41	462.04	460.35	460.34	466.16	469.14	466.11	468.94	---	467.98	466.67
15	462.09	461.05	462.09	460.51	459.83	466.77	469.09	466.74	468.57	---	467.55	466.24
16	462.50	461.73	461.63	458.95	458.96	466.09	469.07	466.16	468.70	---	468.44	466.11
17	462.24	462.30	462.19	460.77	458.78	465.84	469.44	466.72	468.20	---	467.63	465.87
18	462.82	461.61	462.14	460.18	458.76	465.62	469.44	466.67	468.02	468.28	467.95	465.83
19	462.57	461.28	462.06	460.70	458.76	467.86	469.45	466.08	469.16	468.48	467.86	465.79
20	463.31	461.46	461.81	460.92	458.75	467.99	469.43	466.07	467.94	468.49	467.76	465.50
21	463.14	461.65	460.27	461.54	459.73	466.05	468.41	466.84	467.58	468.42	467.93	465.74
22	462.93	460.96	459.80	461.79	458.75	465.82	469.15	466.48	467.35	468.38	467.97	465.71
23	462.39	461.88	460.94	462.27	458.75	465.76	468.57	466.32	468.24	467.70	468.08	465.68
24	462.17	462.20	460.55	462.01	458.75	466.47	467.51	466.92	469.03	467.67	467.34	465.95
25	461.92	461.96	460.63	462.41	458.74	467.25	467.18	466.81	469.79	467.67	467.69	465.95
26	462.20	461.42	460.89	462.64	458.74	466.75	468.54	466.61	469.44	467.29	467.82	465.62
27	462.16	462.05	461.03	462.82	461.00	466.47	467.41	466.74	469.26	468.02	467.88	465.53
28	462.22	461.88	460.66	462.67	461.94	468.61	467.45	466.23	469.99	467.58	467.94	465.40
29	462.02	461.18	460.51	462.76	463.21	467.21	466.93	467.96	469.84	466.61	467.85	465.09
30	461.80	461.53	460.62	460.14	---	467.43	464.23	467.31	469.61	465.76	466.28	465.01
31	461.54	---	460.53	460.00	---	466.75	---	467.40	---	465.19	466.07	---
MEAN	462.73	461.58	461.19	460.85	460.79	466.08	468.16	466.43	468.20	---	467.60	466.20
MAX	463.60	462.30	462.19	462.82	463.67	468.61	469.62	467.96	469.99	---	468.44	467.36
MIN	461.54	460.96	459.80	458.95	458.74	462.45	464.23	464.99	463.72	---	466.07	465.01

09423550 TOPOCK MARSH INLET NEAR NEEDLES, CA

LOCATION.--Lat 34°50'10", long 114°35'03", in NE¼NW¼ sec.33, T.9 N., R.23 E., San Bernardino meridian, in Arizona, Mohave County, Hydrologic Unit 15030101, on left bank of Colorado River on north side of intake structure, 1.3 mi (2.1 km) east of Needles.

PERIOD OF RECORD.--January 1967 to current year.

GAGE.--Water-stage recorders above and below intake gates to record head; recorder to show gate opening. Datum of gages is 400.00 ft (121.920 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Topock Marsh inlet diverts water from the Colorado River into Topock Marsh, an area of 4,260 acres (17.2 km^2). This water flows through the marsh and returns to the Colorado River through the Topock Marsh outlet. The Bureau of Sport Fisheries and Wildlife maintains two other gates to the same opening as the recording gate. Monthly total return flows through the outlet, sta 09423650, Topock Marsh Outlet near Topock, AZ, are shown in the table below. Prior to June 1978, daily flows for this station were published separately.

AVERAGE DISCHARGE.--13 years, 62.4 ft^3/s (1.767 m^3/s), 45,210 acre-ft/yr (55.7 hm^3/yr). For outlet, sta 09423650: 13 years, 9.89 ft^3/s (0.280 m^3/s), 7,170 acre-ft/yr (8.84 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 249 ft^3/s (7.05 m^3/s) Mar. 5, 1976; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	65	20	9.8	25	103	25	79	95	10	91	104
2	86	58	26	7.2	22	95	41	75	111	10	95	94
3	93	64	21	6.3	6.6	95	72	76	121	10	94	82
4	90	66	34	6.0	8.8	84	80	80	111	10	100	86
5	88	60	25	.00	27	70	77	66	124	10	103	86
6	100	59	39	.00	26	89	78	46	127	10	99	85
7	100	43	42	.00	40	104	78	50	143	10	103	81
8	98	30	44	5.5	40	119	83	50	128	9.5	103	83
9	98	31	30	17	60	117	81	52	125	10	104	84
10	97	42	14	5.5	49	112	82	55	71	9.5	104	86
11	101	42	27	.00	49	58	81	58	111	56	116	87
12	97	30	46	.00	62	66	89	56	102	140	131	90
13	89	38	26	5.6	63	83	87	48	100	137	131	87
14	84	39	45	2.5	7.6	179	87	45	107	137	133	84
15	71	31	47	8.1	.00	187	87	48	104	145	129	80
16	82	46	33	.00	.00	175	87	46	82	139	136	79
17	76	57	44	22	.00	170	89	48	55	96	128	78
18	92	41	46	.00	.00	166	37	48	54	78	131	77
19	83	33	44	8.0	.00	132	.00	45	58	79	131	77
20	102	38	34	14	.00	24	.00	45	54	79	130	75
21	98	46	9.5	25	.00	21	.00	48	53	78	132	77
22	93	27	.80	29	.00	20	.00	88	52	78	133	63
23	80	48	16	38	.00	20	26	103	55	92	134	38
24	74	54	7.9	34	.00	21	56	109	58	101	124	39
25	68	48	8.0	40	.00	22	54	108	60	101	130	39
26	75	36	16	44	.00	22	59	105	59	99	131	38
27	74	49	22	49	22	21	55	125	58	104	125	38
28	76	45	9.0	44	37	24	69	126	60	101	116	33
29	71	30	4.1	46	58	22	90	120	60	94	114	32
30	68	39	8.7	.00	---	23	68	95	29	87	99	32
31	58	---	5.2	.00	---	22	---	96	---	74	95	---
TOTAL	2633	1335	794.20	466.30	603.00	2466	1818.00	2239	2527	2194.0	3625	2114
MEAN	84.9	44.5	25.6	15.0	20.8	79.5	60.6	72.2	84.2	70.8	117	70.5
MAX	102	66	47	49	63	187	90	126	143	145	136	104
MIN	58	27	.80	.00	.00	20	.00	45	29	9.5	91	32
AC-FT	5220	2650	1580	925	1200	4890	3610	4440	5010	4350	7190	4190
(†)	0	3570	0	0	0	0	0	0	0	0	0	0

CAL YR 1979 TOTAL 21199.40 MEAN 58.1 MAX 160 MIN .00 AC-FT 42050 † 3570
WTR YR 1980 TOTAL 22814.50 MEAN 62.3 MAX 187 MIN .00 AC-FT 45250 † 3570

† Return flow, in acre-feet, to Colorado River.

09424000 COLORADO RIVER NEAR TOPOCK, AZ

LOCATION.--Lat 34°41'15", long 114°27'43", in SW¼NW¼ sec.13, T.15 N., R.21 W., Gila and Salt River meridian, Mohave County, Hydrologic Unit 15030101, on left bank in Mohave Canyon, 2.4 mi (3.9 km) southeast of Topock, 39 mi (63 km) upstream from Parker Dam, and 45 mi (72 km) downstream from Davis Dam.

DRAINAGE AREA.--176,300 mi^2 (456,600 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1917 to current year. Daily mean elevations published since October 1938.

REVISED RECORDS.--WSP 918: 1921. WSP 1313: 1918-19(M).

GAGE.--Water-stage recorder. Datum of gage is 423.02 ft (128.936 m) National Geodetic Vertical Datum of 1929; gage readings have been reduced to elevations NGVD. Prior to Dec. 3, 1922, at site about 1 mi (2 km) upstream at different datum.

REMARKS.--Records good. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

AVERAGE DISCHARGE.--17 years (water years 1918-34), 20,260 ft^3/s (573.8 m^3/s), 14,670,000 acre-ft/yr (18,100 hm^3/yr); 46 years (water years 1935-80), 12,700 ft^3/s (359.7 m^3/s), 9,201,000 acre-ft/yr (11,300 hm^3/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--1917-34: Maximum discharge probably exceeded 200,000 ft^3/s (5,660 m^3/s) June 22, 1921; minimum, 1,480 ft^3/s (41.9 m^3/s) Aug. 17, 1934.
1934-80: Maximum discharge, 35,700 ft^3/s (1,010 m^3/s) Jan. 29, 1942; maximum elevation, 457.37 ft (139.406 m) July 9, 1959; minimum discharge, 375 ft^3/s (10.6 m^3/s) Feb. 14, 1935; minimum daily, 422 ft^3/s (12.0 m^3/s) Feb. 14, 1935.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge of about 300,000 ft^3/s (8,500 m^3/s), based on determination at Lees Ferry gaging station, occurred about July 10, 1884. Discharge estimated to be in excess of 400,000 ft^3/s (11,300 m^3/s) probably occurred within the period 1857-68 and most likely in 1862.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 24,000 ft^3/s (680 m^3/s) June 29, elevation, about 457.0 ft (139.3 m); minimum daily discharge, 1,710 ft^3/s (48.4 m^3/s) Feb. 26; minimum elevation, 447.41 ft (136.371 m) Feb. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11000	7430	5230	5260	5810	13000	18400	14000	17800	21000	14900	16700
2	11000	7440	5810	5110	6830	13600	20800	13100	17900	18800	17100	17100
3	10500	7380	4410	5060	6320	13400	17100	13600	17800	18300	17100	16900
4	10500	7710	5750	4990	5810	13100	17600	14800	16300	19000	18000	17400
5	10300	7050	5640	3880	6300	9760	17500	14600	17300	19400	19100	17500
6	10100	7240	6200	3620	6760	11300	17400	13700	18700	19400	18700	17600
7	10100	7380	6320	3410	7150	14800	17600	14100	21700	19700	18600	17000
8	10100	6340	6860	4170	7450	17000	19100	15200	20800	18300	19000	16600
9	9930	5810	6660	5570	9680	18600	19200	15200	19000	18400	19500	17000
10	9940	6700	5490	5010	10200	18400	19400	17000	13000	17600	19400	17400
11	9930	6760	5690	3870	8900	12000	18800	18300	16600	16600	19200	17900
12	9960	5960	6460	4860	10200	8330	21600	17300	18800	18500	19200	18600
13	9280	6360	6580	4770	10400	7820	22400	17200	21300	19200	19100	18300
14	8970	6440	6680	4800	7510	12800	22100	15300	21400	19200	19400	17800
15	8060	6130	7330	5270	4780	15500	22100	16200	21000	20100	19000	16200
16	9020	6550	7120	3500	3820	15000	21800	15700	21100	20800	19900	16200
17	7830	7210	6660	5030	2550	14200	22700	15900	20500	21400	19000	16000
18	9240	7580	7710	4480	2530	13900	23000	16700	20000	20900	19300	15500
19	8610	5820	7550	5130	2450	16500	23100	15200	21200	20300	19300	15300
20	9810	6660	7550	5380	2410	18900	23100	15200	20400	20500	19300	15100
21	10100	6300	5580	6160	3810	16000	21000	16500	18100	20500	19600	14600
22	9380	5950	3660	6800	2490	14400	21700	16100	18000	20500	19700	15200
23	8750	6550	5490	7240	2040	14200	21200	15900	18400	19500	20000	14600
24	8170	7260	5410	7880	1880	14800	19300	16700	20700	18900	19000	15200
25	7760	7500	5250	7450	1810	17000	17300	16700	22600	18700	18800	15400
26	7800	6150	5300	8340	1710	16400	19600	16500	22800	18300	19500	15000
27	8120	7170	6060	8790	4420	15900	18800	16400	22400	19200	19700	14600
28	8230	7160	5480	8680	6200	18600	17900	16000	23300	19000	20000	14500
29	7360	5970	4900	8860	8090	17800	17700	17900	23900	17900	20100	14100
30	7790	6300	5320	6280	---	17700	13100	17800	23400	15200	17100	13100
31	7000	---	4740	4390	---	16800	---	18000	---	14400	16500	---
TOTAL	284640	202240	184890	174040	160110	457510	592400	492800	596200	589500	584100	484400
MEAN	9182	6741	5964	5614	5521	14760	19750	15900	19870	19020	18840	16150
MAX	11000	7710	7710	8860	10400	18900	23100	18300	23900	21400	20100	18600
MIN	7000	5810	3660	3410	1710	7820	13100	13100	13000	14400	14900	13100
AC-FT	564600	401100	366700	345200	317600	907500	1175000	977500	1183000	1169000	1159000	960800

CAL YR 1979 TOTAL 3838270 MEAN 10520 MAX 17900 MIN 1500 AC-FT 7613000
WTR YR 1980 TOTAL 4802830 MEAN 13120 MAX 23900 MIN 1710 AC-FT 9526000

NOTE.--Discharge for periods June 18 to July 10, July 15, 16 computed on basis of data obtained from Topock Bridge recorder.

09424000 COLORADO RIVER NEAR TOPOCK, AZ--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	452.47	450.96	450.07	449.98	450.18	452.90	454.84	453.56	454.65	---	453.95	454.04
2	452.48	451.07	450.38	449.90	450.70	453.09	455.63	453.26	454.57	---	454.35	454.15
3	452.31	451.06	449.63	449.88	450.44	453.05	454.44	453.39	454.63	---	454.37	454.07
4	452.35	451.22	450.33	449.85	450.17	452.94	454.60	453.80	454.13	---	454.68	454.25
5	452.26	450.92	450.26	449.24	450.41	451.71	454.59	453.74	454.47	---	455.04	454.27
6	452.20	451.01	450.54	449.09	450.62	452.28	454.57	453.45	454.95	---	454.90	454.30
7	452.21	451.08	450.59	448.96	450.80	453.53	454.63	453.62	455.90	---	454.88	454.09
8	452.18	450.61	450.85	449.42	450.80	454.26	455.15	453.91	455.62	---	455.00	453.97
9	452.13	450.34	450.74	450.17	451.85	454.81	455.19	453.92	455.07	---	455.18	454.09
10	452.13	450.78	450.13	449.88	452.04	454.76	455.26	454.51	453.03	---	455.14	454.24
11	452.13	450.82	450.23	449.26	451.53	452.53	455.06	454.93	454.29	454.60	455.17	454.39
12	452.14	450.42	450.61	449.81	452.05	451.14	455.96	454.59	455.05	455.22	455.08	454.61
13	451.88	450.62	450.65	449.76	452.11	450.91	456.18	454.56	455.84	455.44	455.04	454.52
14	451.76	450.66	450.69	449.79	450.79	452.83	456.11	453.95	455.90	455.43	455.14	454.36
15	451.37	450.50	450.99	450.04	449.69	453.79	456.10	454.26	455.79	---	455.01	453.80
16	451.77	450.72	450.88	449.17	449.28	453.26	456.04	454.08	455.82	---	455.27	453.80
17	451.28	451.04	450.64	449.87	448.73	453.32	456.30	454.14	455.65	455.87	455.00	453.74
18	451.86	451.19	451.14	449.60	448.56	453.22	456.40	454.38	---	455.70	455.10	453.57
19	451.61	450.36	451.08	449.93	448.43	454.12	456.43	453.92	---	455.74	455.10	453.49
20	452.08	450.78	451.08	450.05	448.26	454.93	456.44	453.88	---	455.77	455.08	453.42
21	452.17	450.61	450.11	450.45	448.97	453.97	455.79	454.30	---	455.75	455.15	453.26
22	451.91	450.43	449.17	450.76	448.13	453.41	456.02	454.16	---	455.73	455.20	453.46
23	451.65	450.73	450.07	450.96	447.76	453.40	455.86	454.09	---	455.43	455.25	453.27
24	451.41	451.07	450.03	451.22	447.63	453.64	455.27	454.33	---	455.18	454.91	453.47
25	451.24	451.18	449.94	451.04	447.56	454.31	454.59	454.34	---	455.12	454.85	453.53
26	451.26	450.54	449.98	451.42	447.47	454.12	455.35	454.27	---	454.97	455.07	453.39
27	451.39	451.02	450.39	451.59	449.14	453.98	455.11	454.23	---	455.24	455.12	453.27
28	451.43	451.01	450.02	451.53	450.16	454.88	454.81	454.07	---	455.14	455.19	453.22
29	451.05	450.45	449.78	451.61	451.03	454.65	454.76	454.69	---	454.75	455.20	453.08
30	451.23	450.63	450.00	450.40	---	454.62	453.22	454.67	---	453.80	454.17	452.72
31	450.88	---	449.71	449.45	---	454.32	---	454.72	---	453.50	453.95	---
MEAN	451.81	450.79	450.35	450.13	449.84	453.51	455.36	454.12	---	---	454.92	453.79
MAX	452.48	451.22	451.14	451.61	452.11	454.93	456.44	454.93	---	---	455.27	454.61
MIN	450.88	450.34	449.17	448.96	447.47	450.91	453.22	453.26	---	---	453.95	452.72

NOTE.--Elevations not available for periods June 18 to July 10 and July 15, 16.

09424000 COLORADO RIVER NEAR TOPOCK, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1969 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: July 1952 to July 1962.

INSTRUMENTATION.--Water temperature recorder from July 1952 to July 1962.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
12...	1030	11600	1090	7.8	18.0	310	190	79	28	100	2.5	4.9
NOV												
15...	1130	7240	1110	7.7	15.0	340	220	83	32	120	2.8	5.0
DEC												
03...	1300	4550	1150	7.6	17.0	330	200	79	31	110	2.7	5.5
JAN												
15...	1245	5630	978	8.0	12.0	330	210	81	30	110	2.7	5.1
FEB												
08...	1200	7660	1100	8.0	10.0	320	200	79	29	110	2.7	5.0
MAR												
03...	1120	13100	1120	8.2	12.0	320	190	80	30	86	2.1	4.7
APR												
18...	1045	22700	1120	8.0	12.0	320	190	82	29	110	2.7	5.0
MAY												
01...	1200	14900	1110	8.0	14.0	320	190	82	29	110	2.7	4.8
16...	0945	16700	1120	7.8	17.0	340	210	83	31	110	2.6	5.2
JUN												
03...	1000	17800	1130	7.9	17.0	350	220	90	31	110	2.6	5.2
JUL												
01...	1015	21800	1120	7.9	19.0	330	200	82	30	110	2.6	5.7
AUG												
01...	1245	16500	1120	8.1	19.0	330	200	82	30	110	2.6	6.1
SEP												
03...	1100	18100	1130	7.8	19.0	320	200	81	29	110	2.7	5.5

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
12...	120	290	95	.4	8.3	740	679	1.01	.31	170	<10
NOV											
15...	120	330	95	.3	8.8	763	747	1.04	.13	160	<10
DEC											
03...	130	310	100	.4	8.1	764	723	1.04	.20	140	50
JAN											
15...	120	290	93	.3	8.1	714	691	.97	.20	150	<10
FEB											
08...	120	300	94	.3	8.0	--	699	.95	.20	150	20
MAR											
03...	130	290	92	.3	8.7	--	671	.91	.14	130	10
APR											
18...	130	290	89	.4	8.2	--	693	.94	.22	120	<10
MAY											
01...	130	290	91	.4	8.0	--	695	.95	.24	150	10
16...	130	290	94	.3	8.8	--	702	.95	.28	150	10
JUN											
03...	130	300	98	.3	8.7	--	723	.98	.25	140	<10
JUL											
01...	130	320	96	.7	9.2	751	733	1.02	.18	170	60
AUG											
01...	130	300	99	.5	8.5	--	715	.97	.15	160	<10
SEP											
03...	120	300	98	.4	8.5	746	705	1.01	.17	120	<10

< Actual value is known to be less than value shown.

09424150 COLORADO RIVER AQUEDUCT NEAR PARKER DAM, AZ-CA

LOCATION.--Lat 34°18'58", long 114°09'23", in NW¼SW¼ sec.28, T.3 N., R.27 E., San Bernardino meridian, in California, San Bernardino County, Hydrologic Unit 15030101, at intake pumping plant of Metropolitan Water District of Southern California on Lake Havasu, 1.8 mi (2.9 km) upstream from Parker Dam and 149 mi (240 km) downstream from Hoover Dam.

PERIOD OF RECORD.--January 1939 to current year (monthly diversions only since October 1942). Published as a supplement to records for Colorado River below Parker Dam, 1942-50. Percolation return flow (monthly flow only) October 1964 to September 1973; prior to October 1964 miscellaneous measurements only.

GAGE.--Venturi meters in pressure lines at intake pumping plant.

REMARKS.--Pumping began Jan. 7, 1939. Figures of monthly diversion shown represent water pumped from Lake Havasu less return surface flow from Gene and Copper Basin Reservoirs. No water returned as surface flow from these reservoirs this year. Percolation return flow from Gene and Copper Basin Reservoirs is estimated by the U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation) as 10 acre-ft/day (12,300 m^3/day) for a yearly total of 3,650 acre-ft (4.50 hm^3), which is used for accounting purposes.

COOPERATION.--Diversion records furnished by Metropolitan Water District of Southern California.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily diversion, 3,986 acre-ft (4.91 hm^3), 2,010 ft^3/s (56.9 m^3/s) Oct. 25, 1970 and Oct. 29, 1977; no diversion at times.

MONTHLY DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Diversions			
	Maximum	Minimum	Mean	Total
October	2,368	2,076	2,233	69,237
November	2,276	2,031	2,239	67,183
December	2,516	1,592	2,205	68,368
CAL YR 1979	3,435	0	2,227	812,859
January	2,223	822	1,701	52,745
February	1,878	1,043	1,618	46,935
March	1,984	1,106	1,393	43,177
April	3,059	1,510	2,311	69,342
May	3,438	2,310	3,008	93,255
June	3,073	2,465	2,724	81,724
July	2,744	2,430	2,641	81,861
August	3,059	1,907	2,813	87,188
September	3,043	1,423	2,004	60,114
WTR YR 1980	3,438	822	2,244	821,129

09424450 BIG SANDY RIVER NEAR WIKIEUP, AZ

LOCATION.--Lat 34°27'45", long 113°37'25", in SE¼ sec.16, T.13 N., R.13 W., Mohave County, Hydrologic Unit 15030201, on left bank 7 mi (11 km) downstream from Burro Creek, 15 mi (24 km) upstream from confluence with Santa Maria River, and 17 mi (27 km) south of Wikieup.

DRAINAGE AREA.--2,800 mi^2 (7,250 km^2), approximately.

PERIOD OF RECORD.--March 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,400 ft (427 m), from topographic map. Prior to Oct. 1, 1970, at datum 3.06 ft (0.933 m), corrected, higher. Oct. 1, 1970, to Oct. 10, 1973, at datum 2.06 ft (0.628 m) higher. Supplementary water-stage recorder for low flows at site 75 ft (23 m) upstream at same datum from Apr. 10, 1975 to Mar. 1, 1978; Mar. 28 to Dec. 7, 1966, Apr. 2, 1969, to Apr. 9, 1975, at site 0.8 mi (1.3 km) downstream at different datum.

REMARKS.--Records poor. Diversions above station for irrigation of about 3,800 acres (15 km^2), mostly by pumping from ground water.

AVERAGE DISCHARGE.--14 years, 93.8 ft^3/s (2.66 m^3/s), 67,960 acre-ft/yr (83.8 hm^3/yr); median of yearly mean discharges, 52 ft^3/s (1.47 m^3/s), 37,700 acre-ft/yr (46 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,500 ft^3/s (1,090 m^3/s) Feb. 20, 1980, gage height, 12.51 ft (3.813 m), from high-water mark in gage well, from rating curve extended above 700 ft^3/s (19.8 m^3/s) on basis of step-backwater computation; minimum daily, 1.3 ft^3/s (0.037 m^3/s) July 13, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 700 ft^3/s or 19.8 m^3/s on basis of step-backwater computation) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	2345	3,650	103	6.01	1.832
Jan. 30	b0500	19,800	561	a11.20	3.414
Feb. 15	Unknown	Unknown	-----	Unknown	-----
Feb. 20	Unknown	*38,500	1,090	a12.51	3.813

Minimum daily, 3.5 ft^3/s (0.099 m^3/s) Sept. 8.
a From high-water mark in gage well.
b About

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	5.4	6.9	6.0	614	355	153	75	18	6.8	5.3	4.8
2	5.2	5.4	7.0	6.0	495	264	161	70	23	6.8	5.2	4.6
3	5.2	5.4	7.1	6.0	471	244	161	62	24	6.4	5.1	4.5
4	5.2	5.4	7.1	6.0	572	244	148	52	23	5.6	4.9	4.3
5	5.2	5.4	7.1	6.0	404	282	135	48	22	6.4	4.9	4.3
6	5.2	5.5	7.1	5.5	310	253	121	46	21	6.3	4.9	4.2
7	5.2	5.5	7.1	5.5	244	333	106	41	21	6.9	4.9	3.8
8	5.2	5.6	7.1	5.5	167	235	93	41	21	7.2	4.8	3.5
9	5.2	5.6	7.1	5.5	153	243	93	40	19	6.8	4.8	4.2
10	5.2	5.7	7.1	5.5	134	188	89	35	17	7.1	4.9	4.8
11	5.2	5.7	7.1	100	123	170	81	34	16	7.2	4.9	4.7
12	5.2	5.8	7.1	2460	107	322	67	34	16	7.2	4.9	4.7
13	5.3	5.8	6.5	792	112	313	67	31	15	7.3	5.0	4.5
14	5.3	5.8	6.5	425	6800	312	70	32	12	7.3	4.9	4.5
15	5.3	6.0	6.5	123	8400	266	70	34	12	7.3	4.8	4.5
16	5.3	6.0	6.5	134	1700	226	64	35	12	7.0	4.8	4.5
17	5.3	6.1	6.5	225	3500	151	58	34	13	6.8	4.8	4.3
18	5.3	6.2	6.5	85	6000	155	55	31	11	6.9	4.8	4.3
19	5.3	6.2	6.5	81	11000	202	55	33	11	7.2	4.7	4.5
20	5.3	6.3	6.5	102	16000	193	50	31	11	7.2	4.9	4.5
21	5.3	6.3	6.5	336	9000	229	55	29	10	7.4	4.9	4.5
22	5.3	6.4	6.5	310	5000	192	55	26	10	6.8	4.9	4.5
23	5.3	6.4	6.0	404	2500	184	50	26	9.4	6.0	4.9	4.3
24	5.3	6.4	6.0	98	1900	194	50	24	9.2	6.5	4.9	4.3
25	5.4	6.6	6.0	70	1350	243	50	26	8.2	6.8	4.9	4.2
26	5.4	6.6	6.0	64	1000	239	45	24	7.8	6.8	4.8	4.5
27	5.4	6.7	6.0	43	700	238	45	22	8.3	6.3	4.7	4.5
28	5.4	6.7	6.0	350	500	188	45	23	8.5	6.1	4.6	4.8
29	5.4	6.8	6.0	5390	436	165	55	24	8.2	5.8	4.6	4.3
30	5.4	6.9	6.0	12600	---	165	70	24	6.8	5.5	4.7	4.5
31	5.4	---	6.0	1200	---	145	---	24	---	5.4	4.9	---
TOTAL	163.8	180.6	203.9	25449.5	79692	7133	2419	1111	424.4	207.2	151.0	132.4
MEAN	5.28	6.02	6.58	821	2748	230	80.6	35.8	14.1	6.68	4.87	4.41
MAX	5.4	6.9	7.1	12600	16000	355	161	75	24	7.4	5.3	4.8
MIN	5.2	5.4	6.0	5.5	107	145	45	22	6.8	5.4	4.6	3.5
AC-FT	325	358	404	50480	158100	14150	4800	2200	842	411	300	263

CAL YR 1979	TOTAL	61265.3	MEAN 168	MAX 8150	MIN 4.0	AC-FT	121500	
WTR YR 1980	TOTAL	117267.8	MEAN 320	MAX 16000	MIN 3.5	AC-FT	232600	

NOTE.--No gage-height record Oct. 1 to Jan. 11, Feb. 14 to Mar. 4, Sept. 3-30.

09424470 KIRKLAND CREEK NEAR KIRKLAND, AZ

LOCATION.--Lat 34°23'38", long 112°43'19", in SW¼ sec.7, T.12 N., R.4 W., Yavapai County, Hydrologic Unit 15030203, on right bank 1.3 mi (2.1 km) upstream from Skull Valley Wash and 1.7 mi (2.7 km) southwest of Kirkland.

DRAINAGE AREA.--109 mi^2 (282 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1973 to current year.

REVISED RECORDS.--WDR AZ-77-1: 1976.

GAGE.--Water-stage recorder. Altitude of gage is 3,900 ft (1,190 m), from topographic map.

REMARKS.--Records poor. No known diversions above station.

AVERAGE DISCHARGE.--7 years, 11.9 ft^3/s (0.337 m^3/s), 8,620 acre-ft/yr (10.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft^3/s (292 m^3/s) Nov. 11, 1978, gage height, 11.85 ft (3.612 m), from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement at gage height 10.53 ft (3.209 m); minimum daily, 1.1 ft^3/s (0.031 m^3/s) Oct. 2 to Nov. 1, 1974, Aug. 29, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from slope-area measurement of peak flow) and peak discharges above base of 200 ft^3/s (5.7 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1615	264	7.48	3.31	1.009
Jan. 30	Unknown	Unknown	----	Unknown	-----
Feb. 15	Unknown	Unknown	----	Unknown	-----
Feb. 17	Unknown	Unknown	---	Unknown	-----
Feb. 19	2130	*8,440	239	29.4	2.865

Minimum daily, 1.5 ft^3/s (0.042 m^3/s) June 18-21.
a From profile past gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.6	2.6	2.9	40	30	11	7.2	3.3	2.1	2.3	2.6
2	2.6	2.6	2.6	2.9	22	25	16	4.3	3.3	2.3	2.3	2.6
3	2.6	2.6	2.6	2.9	16	25	10	4.2	3.2	2.3	2.3	2.6
4	2.6	2.6	2.6	2.9	13	25	9.1	4.6	3.2	2.3	2.2	2.6
5	2.6	2.6	2.6	2.9	11	25	8.9	7.4	3.2	2.3	2.2	2.6
6	2.6	2.6	2.4	3.2	10	25	8.6	4.5	3.2	2.3	2.2	2.6
7	2.6	2.6	2.4	3.2	9.2	20	8.3	3.9	3.1	2.6	2.2	2.6
8	2.6	2.6	2.4	3.2	7.9	20	8.1	3.8	3.1	2.6	2.2	2.6
9	2.6	2.6	2.4	3.4	6.1	20	7.8	3.8	3.1	2.3	2.2	2.6
10	2.5	2.4	2.4	3.7	5.0	20	7.6	3.8	2.6	2.3	2.2	2.6
11	2.5	2.4	2.4	62	3.2	20	7.4	3.8	2.3	2.3	2.2	2.6
12	2.5	2.4	2.4	29	3.2	19	7.2	3.7	2.3	2.3	2.2	2.6
13	2.5	2.4	2.6	5.1	3.2	18	7.0	3.7	2.1	2.3	2.2	2.6
14	2.5	2.4	2.6	3.7	1080	18	6.9	4.5	2.1	2.3	2.2	2.6
15	2.5	2.9	2.6	32	1650	17	6.7	9.2	2.1	2.3	2.2	2.6
16	2.5	3.2	2.6	8.6	300	17	6.5	4.6	1.9	2.3	2.2	2.6
17	2.7	3.2	2.6	6.7	325	16	6.4	3.6	1.9	2.3	2.3	2.6
18	2.9	3.2	2.6	6.7	253	16	6.2	3.6	1.5	2.3	2.3	2.6
19	2.6	3.2	2.6	22	1460	16	6.0	3.6	1.5	2.3	2.3	2.6
20	3.4	3.2	2.6	14	957	20	5.9	3.5	1.5	2.3	2.3	2.6
21	4.0	3.2	2.6	8.5	644	15	5.7	3.5	1.5	2.3	2.3	2.6
22	3.4	3.2	2.4	7.7	110	15	5.6	3.5	1.7	2.3	2.4	3.0
23	3.2	2.9	2.4	7.0	73	16	5.4	3.5	1.9	2.3	2.4	3.0
24	3.0	2.9	2.4	6.2	64	14	5.3	3.5	1.9	2.3	2.4	3.0
25	2.9	2.9	2.6	5.5	52	13	5.2	3.4	1.9	2.3	2.4	3.0
26	2.6	2.9	2.6	4.7	39	12	5.0	3.4	1.9	2.3	2.4	3.0
27	2.6	2.9	2.6	4.0	34	12	4.9	3.4	2.1	2.3	2.5	3.0
28	2.6	2.9	2.6	3.2	30	11	4.8	3.4	2.1	2.3	2.5	3.6
29	2.6	2.9	2.6	200	30	11	6.9	3.3	2.1	2.3	2.5	3.0
30	2.6	2.9	2.9	1000	---	11	20	3.3	2.1	2.3	2.5	3.0
31	2.6	---	2.9	100	---	10	---	3.3	---	2.3	2.5	---
TOTAL	84.6	83.9	79.2	1567.8	7250.8	552	230.4	128.8	69.7	71.7	71.5	82.2
MEAN	2.73	2.80	2.55	50.6	250	17.8	7.68	4.15	2.32	2.31	2.31	2.74
MAX	4.0	3.2	2.9	1000	1650	30	20	9.2	3.3	2.6	2.5	3.6
MIN	2.5	2.4	2.4	2.9	3.2	10	4.8	3.3	1.5	2.1	2.2	2.6
AC-FT	168	166	157	3110	14380	1090	457	255	138	142	142	163

CAL YR 1979	TOTAL	4928.5	MEAN 13.5	MAX 1000	MIN 1.6	AC-FT	9780	
WTR YR 1980	TOTAL	10272.6	MEAN 28.1	MAX 1650	MIN 1.5	AC-FT	20380	

NOTE.--No gage-height record Jan. 20 to Feb. 18, Feb. 28 to June 9, July 23 to Sept. 3.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976-80.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT										
15...	1530	2.5	470	--	22.0	200	0	55	15	19
APR										
09...	1715	7.8	463	7.4	15.0	190	24	53	15	20

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
15...	.6	3.0	200	24	20	.3	43	307	302
APR									
09...	.6	3.1	170	30	20	.3	33	289	279

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)
OCT									
15...	.42	.60	.06	.18	5	40	<1	0	<3
APR									
09...	.39	.60	.08	.25	4	40	<1	0	<3

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, DIS-SOLVED (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
OCT									
15...	0	10	0	--	.3	<10	0	<3	.00
APR									
09...	2	<10	0	8	.0	<10	1	10	--

< Actual value is known to be less than value shown.

09424900 SANTA MARIA RIVER NEAR BAGDAD, AZ

LOCATION.--Lat 34°18'21", long 113°20'47", in SE¼ sec.12, T.11 N., R.11 W., Mohave County, Hydrologic Unit 15030203, on right bank 4.0 mi (6.4 km) east of Palmerita Ranch, 12 mi (19 km) upstream from confluence with Big Sandy River, and 21 mi (34 km) southwest of Bagdad.

DRAINAGE AREA.--1,210 mi^2 (3,130 km^2), approximately.

PERIOD OF RECORD.--April 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,360 ft (415 m), from topographic map.

REMARKS.--Records poor. Diversions above station for irrigation of about 5,300 acres (21.4 km^2), most of which is by pumping from ground water.

AVERAGE DISCHARGE.--14 years, 70.6 ft^3/s (1.999 m^3/s), 51,150 acre-ft/yr (63.1 hm^3/yr); median of yearly mean discharges, 35 ft^3/s (0.99 m^3/s), 25,400 acre-ft/yr (31 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,600 ft^3/s (697 m^3/s) Mar. 1, 1978, gage height, 7.82 ft (2.384 m), from rating curve extended above 5,000 ft^3/s (140 m^3/s) on basis of step-backwater computations and slope-area measurements at gage heights 5.50 and 7.82 ft (1.676 and 2.384 m); no flow for most of time in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 5,000 ft^3/s or 140 m^3/s as explained above) and peak discharges above base of 200 ft^3/s (5.7 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	2030	8,630	244	4.52	1.378	Mar. 4	1830	798	22.6	2.38	0.725
Jan. 20	Unknown	Unknown	---	Unknown	-----	Mar. 7	1345	1,090	30.9	2.51	0.765
Jan. 30	Unknown	*19,800	561	a6.90	2.103	Mar. 12	0715	821	23.3	2.39	0.728
Feb. 15	Unknown	Unknown	---	Unknown	-----	Mar. 19	1445	334	9.46	2.11	0.643
Feb. 20	Unknown	19,500	552	a6.84	2.085	Mar. 23	2315	409	11.6	2.16	0.658

No flow for many days.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	1500	350	105	101	17	8.2	.90	.00
2	.00	.00	.00	.00	730	300	122	112	17	11	.80	.00
3	.00	.00	.00	.00	611	288	115	79	25	7.5	.60	.00
4	.00	.00	.00	.00	234	430	131	61	25	5.6	.40	.00
5	.00	.00	.00	.00	115	351	118	49	25	4.5	.30	.00
6	.00	.00	.00	.00	55	246	110	51	24	5.3	.20	.00
7	.00	.00	.00	.00	36	491	107	39	23	5.6	.00	.00
8	.00	.00	.00	.00	25	383	87	30	23	4.7	.00	.00
9	.00	.00	.00	.00	20	244	92	30	22	5.5	.00	.00
10	.00	.00	.00	.00	20	196	77	25	21	5.7	.00	.00
11	.00	.00	.00	3340	20	286	76	25	20	5.0	.00	.00
12	.00	.00	.00	970	20	617	83	24	19	5.5	.00	.00
13	.00	.00	.00	796	15	371	59	24	19	5.0	.00	.00
14	.00	.00	.00	423	4000	249	67	24	18	3.8	.00	.00
15	.00	.00	.00	658	4500	194	70	23	17	4.1	.00	.00
16	.00	.00	.00	1440	1000	178	61	23	16	3.9	.00	.00
17	.00	.00	.00	1280	2500	127	45	23	15	3.9	.00	.00
18	.00	.00	.00	1110	3000	119	53	22	15	2.5	.00	.00
19	.00	.00	.00	842	6000	225	56	22	14	2.9	.00	.00
20	.00	.00	.00	2000	7500	251	50	22	13	3.4	.00	.00
21	.00	.00	.00	1800	4000	214	47	21	12	3.5	.00	.00
22	.00	.00	.00	1600	2500	179	44	21	11	4.3	.00	.00
23	.00	.00	.00	1460	1500	296	43	21	11	3.4	.00	.00
24	.00	.00	.00	1200	1000	358	51	20	10	2.1	.00	.00
25	.00	.00	.00	1030	900	263	56	20	9.0	1.9	.00	.00
26	.00	.00	.00	850	700	223	58	20	8.0	1.8	.00	.00
27	.00	.00	.00	650	600	168	49	19	7.0	1.7	.00	.00
28	.00	.00	.00	450	500	161	40	19	6.0	1.5	.00	.00
29	.00	.00	.00	250	450	157	53	19	5.0	1.4	.00	.00
30	.00	.00	.00	60	---	139	63	18	5.0	1.2	.00	.00
31	.00	---	.00	6800	---	100	---	18	---	1.0	.00	---
TOTAL	.00	.00	.00	29009.00	44051	8154	2188	1025	472.0	127.4	3.20	.00
MEAN	.000	.000	.000	936	1519	263	72.9	33.1	15.7	4.11	.10	.000
MAX	.00	.00	.00	6800	7500	617	131	112	25	11	.90	.00
MIN	.00	.00	.00	.00	15	100	40	18	5.0	1.0	.00	.00
AC-FT	.00	.00	.00	57540	87380	16170	4340	2030	936	253	6.3	.00

CAL YR 1979	TOTAL	56501.44	MEAN 155	MAX 4410	MIN .00	AC-FT	112100	
WTR YR 1980	TOTAL	85029.60	MEAN 232	MAX 7500	MIN .00	AC-FT	168700	

NOTE.--No gage-height record Jan. 19-31, Feb. 8 to Mar. 3, May 11 to June 2, June 5-30, July 26 to Aug. 7.

09426000 BILL WILLIAMS RIVER BELOW ALAMO DAM, AZ

LOCATION.--Lat 34°13'51", long 113°36'29", in SE¼SE¼ sec.4, T.10 N., R.13 W., Yuma County, Hydrologic Unit 15030204, on left bank 0.6 mi (1.0 km) downstream from Alamo Dam, 3.7 mi (6.0 km) downstream from Bullard Wash, and 8 mi (13 km) downstream from confluence of Santa Maria and Big Sandy Rivers.

DRAINAGE AREA.--4,730 mi^2 (12,250 km^2), approximately, of which 400 mi^2 (1,040 km^2) is below confluence of Santa Maria and Big Sandy Rivers.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for October and November 1939, published in WSP 1313. Prior to October 1943, published as "Williams River near Alamo." October 1943 to September 1967, published as "Bill Williams River near Alamo."

REVISED RECORDS.--WSP 1213: 1939(M). 1941(P).

GAGE.--Water-stage recorder. Altitude of gage is 967 ft (294.7 m), from construction data. Prior to Apr. 9, 1968, at site 1.7 mi (2.7 km) upstream at datum 1,002.95 ft (305.699 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 100 ft^3/s (2.8 m^3/s) and fair below. Diversions above station for irrigation of about 9,100 acres (36.8 km^2), mostly by pumping from ground water. Flow regulated by Alamo Lake, beginning Mar. 28, 1969. Temporary storage and slight regulation of releases through uncontrolled rectangular conduit through Alamo Dam June 23, 1968, to Mar. 27, 1969. Alamo Lake is formed by an earthfill and rockfill dam, completed in 1968. Total capacity of lake is 1,043,000 acre-ft (1,290 hm^3). See table below for monthend contents. Maximum contents during year was 723,400 acre-ft (892 hm^3) Feb. 23.

AVERAGE DISCHARGE (adjusted for storage in Alamo Lake).--41 years, 115 ft^3/s (3.257 m^3/s), 83,320 acre-ft/yr (103 hm^3/yr); median of yearly mean discharges, 48 ft^3/s (1.36 m^3/s), 34,800 acre-ft/yr (43 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,100 ft^3/s (1,840 m^3/s) Aug. 29, 1951, gage height, 30.8 ft (9.39 m), site and datum then in use; no flow at times in most years since 1969.

EXTREMES OUTSIDE PERIOD OF RECORD.--The history of floods that occurred prior to October 1939 is published in WSP 1683. The peak discharges have been correlated with those for Bill Williams River at Planet. The peak discharge for February 1937 has been determined as 105,000 ft^3/s (2,970 m^3/s) at a stage of 46 ft (14 m)—site and datum then in use—from rating curve extended above 50,000 ft^3/s (1,400 m^3/s) on basis of slope-area measurement for flood of Sept. 6, 1939, at a stage of 39.6 ft (12.07 m), discharge of 86,000 ft^3/s (2,440 m^3/s) and known stable high-water control.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,400 ft^3/s (96.3 m^3/s) Mar. 22; minimum daily, 7.3 ft^3/s (0.21 m^3/s) Apr. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	652	525	616	586	191	2750	7.3	1030	15	1040	972	880
2	652	525	616	586	460	2750	10	1060	13	1230	961	880
3	372	520	622	586	460	3230	10	1080	11	1450	950	880
4	208	520	622	586	460	2970	10	1080	11	1490	940	880
5	208	520	628	586	564	2970	10	1080	11	1460	930	880
6	206	525	622	586	627	2880	10	1080	54	1450	920	880
7	204	530	616	580	641	3310	10	1080	80	1600	920	880
8	204	530	616	575	495	3310	10	1080	80	1560	920	890
9	202	535	610	314	210	3260	10	1100	80	1620	910	1060
10	202	535	610	105	210	3240	11	1100	80	1650	910	1170
11	200	540	610	103	210	3290	11	1100	80	1650	910	1160
12	200	540	610	103	210	3330	11	1100	80	1650	910	1160
13	198	540	610	103	162	3240	11	1100	80	1650	910	1180
14	198	550	604	103	96	3240	11	1100	81	1640	910	1190
15	411	550	604	105	13	3240	579	1100	81	1520	910	1190
16	580	555	604	105	13	3220	1010	1100	81	1400	900	1190
17	575	555	604	105	13	3190	989	1100	81	1390	900	1210
18	575	560	604	105	12	3190	1050	1080	81	1390	900	1210
19	570	560	604	105	253	3150	1060	1080	81	1400	900	1210
20	570	565	604	105	578	3260	1070	1080	81	1400	900	1190
21	560	565	604	105	584	3360	1190	440	81	1370	900	1210
22	560	570	604	105	1870	3400	1310	10	81	1370	910	1220
23	555	570	604	105	2730	3380	1100	11	81	1390	910	1220
24	550	575	604	105	2810	3360	1010	12	81	1430	910	1220
25	550	575	598	105	2840	3360	1060	13	81	1390	900	1210
26	550	575	592	105	2840	2740	950	15	81	1390	900	1210
27	545	313	592	105	2840	2810	950	16	82	1390	900	1220
28	540	111	592	105	2880	2860	1160	16	82	1390	900	1190
29	540	111	592	72	2870	2860	1200	17	82	1230	900	1210
30	530	415	586	15	---	2830	1030	17	570	994	900	1180
31	530	---	586	15	---	1370	---	16	---	983	870	---
TOTAL	13197	15160	18790	7074	28142	95350	16860.3	22293	2544	43967	28283	33260
MEAN	426	505	606	228	970	3076	562	719	84.8	1418	912	1109
MAX	652	575	628	586	2880	3400	1310	1100	570	1650	972	1220
MIN	198	111	586	15	12	1370	7.3	10	11	983	870	880
AC-FT	26180	30070	37270	14030	55820	189100	33440	44220	5050	87210	56100	65970
(†)	344600	314100	277000	394800	704700	544800	516600	473200	463200	373300	315100	245000

CAL YR 1979 TOTAL 147530.5 MEAN 404 MAX 652 MIN 4.3 AC-FT 292600 ‡ -122200
WTR YR 1980 TOTAL 324920.3 MEAN 888 MAX 3400 MIN 7.3 AC-FT 644500 ‡ -128700

† Monthend contents, in acre-feet, in Alamo Lake, furnished by Corps of Engineers.
‡ Change in contents, in acre-feet.

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 34°15'43", long 114°01'40", in SE¼SW¼ sec.27, T.11 N., R.17 W., on boundary between Mohave and Yuma Counties, Hydrologic Unit 15030204, at ford 0.8 mi (1.3 km) downstream from Mineral Wash, 3.6 mi (5.8 km) upstream from Havasu Lake National Wildlife Refuge, 4.1 mi (6.6 km) west of Planet Ranch, 5.2 mi (8.4 km) upstream from waterline of Havasu Lake at elevation 450 ft (137 m) above National Geodetic Verticle Datum of 1929, and approximately 30 mi (50 km) downstream from Alamo Dam.

DRAINAGE AREA.--5,140 mi^2 (13,310 km^2) approximately, of which approximately 410 mi^2 (1,060 km^2) is below Alamo Dam.

PERIOD OF RECORD.--January 1970 to January 1972, October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Streamflow ungaged.

COOPERATION.--Pesticide analysis performed by Environmental Protection Agency.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 1,120 micromhos Oct. 23, 1978; minimum observed, 292 micromhos Mar. 2, 6, 8, 11, 1980.
WATER TEMPERATURES: Maximum observed, 35.0°C July 3, 6, 1976; minimum observed, 5.0°C Dec. 23, 30, 31, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 866 micromhos Jan. 30; minimum observed, 292 micromhos Mar. 2, 6, 8, 11.
WATER TEMPERATURES: Maximum observed, 26.0°C July 16; minimum observed, 5.0°C Dec. 23, 30, 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT												
15...	1100	63	610	7.9	26.5	18.0	14	7.8	230	260	150	0
NOV												
13...	1000	400	470	7.8	19.0	10.0	22	10.8	--	--	120	0
DEC												
10...	1130	369	430	7.1	21.0	10.0	17	10.9	70	108	130	0
JAN												
07...	1015	300	550	--	20.5	11.0	17	10.6	59	88	150	0
FEB												
11...	1100	200	455	7.9	16.5	9.0	120	10.2	106	100	130	0
MAR												
10...	1015	3000	300	8.0	15.0	11.0	380	10.6	190	960	88	0
APR												
10...	1230	50	750	8.0	28.5	20.5	2.5	8.4	36	44	200	11
MAY												
14...	1010	1100	410	7.5	28.0	17.5	46	--	60	93	120	9
JUN												
09...	1115	16	660	8.3	34.0	31.0	4.2	7.1	30	164	180	0
JUL												
07...	1130	200	440	8.4	41.0	22.0	52	8.1	--	--	120	3
AUG												
11...	1030	1030	440	7.8	39.0	25.0	18	8.8	50	433	130	1
SEP												
08...	1020	900	440	7.6	33.0	20.5	15	9.5	96	--	130	0

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT												
15...	40	12	55	2.0	5.1	160	50	53	.9	22	346	337
NOV												
13...	33	9.6	40	1.6	4.6	140	41	29	.8	20	251	264
DEC												
10...	35	10	46	1.8	4.9	140	38	33	.7	21	287	274
JAN												
07...	40	12	52	1.9	5.4	160	51	40	.8	21	317	320
FEB												
11...	35	10	49	1.9	4.4	130	46	46	.7	21	306	294
MAR												
10...	24	6.9	23	1.1	3.8	98	26	17	.5	16	180	178
APR												
10...	54	16	79	2.4	6.4	190	70	74	1.2	31	443	450
MAY												
14...	32	9.6	38	1.5	4.4	110	55	25	.1	20	244	252
JUN												
09...	47	15	84	2.7	6.3	190	67	70	1.2	29	437	438
JUL												
07...	33	9.9	36	1.4	4.8	120	40	29	.1	18	230	244
AUG												
11...	36	10	37	1.4	4.8	130	38	30	.8	18	260	253
SEP												
08...	35	11	43	1.6	4.7	140	41	30	.7	18	368	268

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)
OCT												
15...	.47	.52	.01	.03	.01	.94	.52	.95	.40	.55	1.5	1.1
NOV												
13...	.34	.40	.01	.02	.01	.51	--	.52	--	--	.89	--
DEC												
10...	.39	.28	.00	.01	.00	.59	.39	.59	.19	.40	.86	.68
JAN												
07...	.43	.30	.06	.00	.07	1.0	.96	1.1	.14	.96	1.4	1.3
FEB												
11...	.42	.77	.06	.01	.07	.82	.40	.88	.47	.41	1.8	1.2
MAR												
10...	.24	.35	.13	.07	.16	1.3	.64	1.4	.69	.71	1.8	1.1
APR												
10...	.60	.93	.12	.04	.15	.42	.89	.54	.00	.93	1.5	1.9
MAY												
14...	.33	.32	.01	.03	.01	.90	.69	.91	.19	.72	1.2	1.0
JUN												
09...	.59	.86	.01	.01	.01	.59	.56	.60	.03	.57	1.5	1.4
JUL												
07...	.31	.28	.01	.02	.01	.67	.58	.68	.08	.60	1.1	.88
AUG												
11...	.35	.13	.03	.00	.04	2.0	.34	2.0	1.7	.34	2.2	.47
SEP												
08...	.50	.11	.00	.02	.00	.45	.37	.45	.06	.39	.58	.50

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE DISSOL. (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)
OCT 15...	6.5	.150	.46	.090	.10	--	7	--	60	160	--	--
NOV 13...	3.9	.190	.58	.150	--	9	5	400	50	--	0	3
DEC 10...	3.8	.080	.25	.850	--	--	--	--	--	--	--	--
JAN 07...	6.2	.110	.34	.060	--	--	--	--	--	--	--	--
FEB 11...	7.9	.310	.95	.070	--	8	5	100	50	--	0	<1
MAR 10...	7.7	.860	2.6	.110	--	--	--	--	--	--	--	--
APR 10...	6.4	.080	.25	.070	--	--	--	--	--	--	--	--
MAY 14...	5.5	.300	.92	.120	--	7	7	100	50	--	1	<1
JUN 09...	6.6	.070	.21	.060	--	--	--	--	--	--	--	--
JUL 07...	4.8	.170	.52	.070	--	--	--	--	--	--	--	--
AUG 11...	9.5	.150	.46	.100	--	8	8	100	60	--	0	<1
SEP 08...	2.6	.160	.49	.090	--	--	--	--	--	--	--	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 15...	--	--	--	--	--	4	--	10	--	0	--	40
NOV 13...	0	0	3	<3	4	0	1400	30	4	0	110	10
DEC 10...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 11...	20	0	3	<3	15	0	5600	40	6	0	190	30
MAR 10...	--	--	--	--	--	--	--	--	--	--	--	--
APR 10...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 14...	0	0	3	<3	15	5	4100	380	10	0	150	30
JUN 09...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 07...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 11...	10	0	1	<3	9	4	1300	<10	3	0	80	2
SEP 08...	--	--	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

WATER QUALITY DA A, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
15...	--	--	--	--	--	0	--	--	--	<3	4.2
NOV											
13...	.2	.2	7	0	0	0	0	0	40	<3	--
DEC											
10...	--	--	--	--	--	--	0	--	--	--	11
JAN											
07...	--	--	--	--	--	--	--	--	--	--	5.2
FEB											
11...	.0	.0	12	3	0	0	0	0	30	<3	--
MAR											
10...	--	--	--	--	--	--	0	--	--	--	12
APR											
10...	--	--	--	--	--	--	--	--	--	--	2.4
MAY											
14...	.0	.0	9	11	0	0	0	0	30	<3	--
JUN											
09...	--	--	--	--	--	--	0	--	--	--	3.5
JUL											
07...	--	--	--	--	--	--	0	--	--	--	7.6
AUG											
11...	.0	.0	4	2	0	0	0	0	20	<3	--
SEP											
08...	--	--	--	--	--	--	0	--	--	--	8.8

DATE	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
15...	--	--	--	--	--	--	--	--	48	8.2	84
NOV											
13...	8.0	.5	34	--	--	--	--	--	47	51	72
DEC											
10...	--	--	--	--	--	--	--	--	28	28	90
JAN											
07...	--	--	--	--	--	--	--	--	89	72	40
FEB											
11...	2.4	--	--	--	--	--	--	--	274	148	41
MAR											
10...	--	--	72	--	--	--	--	--	698	5650	--
APR											
10...	--	--	90	--	--	--	--	--	2	.27	--
MAY											
14...	3.9	1.4	--	--	--	--	--	--	206	612	--
JUN											
09...	--	--	1500	--	--	--	--	--	42	1.8	--
JUL											
07...	--	--	440	.000	.000	.00	.110	.000	63	34	--
AUG											
11...	4.4	.3	210	--	--	--	--	--	67	186	--
SEP											
08...	--	--	220	--	--	--	--	--	28	68	--

< Actual value is known to be less than value shown.

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)
NOV 13...	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAY 14...	1010	.00	--	.0	--	.00	--	.00	--	.00	--	.00

DATE	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
NOV 13...	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND
MAY 14...	--	.00	--	.00	.00	--	.00	--	.00	--	.00	--

DATE	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)
NOV 13...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--
MAY 14...	.00	--	.00	--	.00	--	.00	--	.00	--	.00	.00

DATE	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE TOTAL (UG/L)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 13...	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAY 14...	.00	--	.00	.0	--	0	--	.00	--	--	--	--

ND Material specifically analyzed for but not detected.

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	473	450	500	630	859	295	504	388	763	402	417	409
2	473	460	500	641	394	292	696	376	755	401	417	430
3	474	460	500	640	395	297	697	373	760	402	416	429
4	472	460	500	639	392	297	699	372	765	404	417	431
5	472	560	500	649	392	297	701	372	757	402	418	430
6	472	640	500	645	391	292	695	371	768	405	416	430
7	459	630	500	640	392	297	691	372	761	403	416	430
8	459	640	500	639	392	292	695	370	728	403	417	431
9	463	630	500	636	391	297	814	369	723	401	416	431
10	458	640	500	640	498	302	813	379	728	402	417	410
11	456	640	500	637	497	292	795	637	734	400	417	415
12	459	640	500	640	498	298	376	618	732	403	420	432
13	462	640	590	636	497	297	803	615	728	402	421	418
14	457	640	500	639	497	293	383	618	715	401	422	412
15	459	640	500	716	500	319	377	618	727	410	418	416
16	458	640	500	717	780	318	379	618	733	407	421	431
17	458	630	500	720	786	323	378	618	732	404	421	434
18	457	640	500	720	344	317	376	619	734	407	420	430
19	458	650	500	720	350	317	385	617	732	404	420	414
20	458	650	500	720	349	318	377	617	737	407	418	431
21	489	640	500	717	340	313	370	621	732	406	420	412
22	457	650	500	718	340	321	370	614	730	406	420	431
23	457	640	470	714	341	316	380	619	470	406	421	418
24	457	650	490	714	319	315	375	619	452	406	422	414
25	458	650	490	711	317	319	378	618	448	407	422	412
26	456	650	500	718	319	322	375	617	446	407	424	428
27	457	650	570	711	317	315	377	769	448	408	408	446
28	456	650	500	841	316	314	366	769	456	406	409	450
29	458	650	640	856	314	317	367	769	446	416	418	448
30	456	650	500	866	---	509	368	769	448	418	410	449
31	454	---	500	862	---	506	---	777	---	416	409	---
MEAN	462	615	508	700	432	320	512	564	663	406	418	427
MAX	489	650	640	866	859	509	814	777	768	418	424	450
MIN	454	450	470	630	314	292	366	369	446	400	408	409

WTR YR 1980 MEAN 502 MAX 866 MIN 292

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	16.0	7.0	6.0	14.0	11.0	11.0	15.0	24.0	15.0	20.0	19.0
2	20.0	16.0	7.0	6.0	11.0	11.0	11.0	15.0	24.0	25.0	25.0	19.0
3	20.0	16.0	8.0	9.0	14.0	11.0	17.0	15.0	24.0	25.0	25.0	19.0
4	20.0	16.5	6.0	10.0	11.5	16.0	11.0	15.0	21.0	25.0	24.0	19.0
5	20.0	11.0	6.0	10.0	10.0	11.0	19.0	15.0	24.0	18.0	25.0	19.0
6	19.5	11.0	7.0	9.0	10.0	11.0	17.0	20.0	19.0	18.0	19.0	19.0
7	19.0	11.0	6.0	10.0	10.0	16.0	12.0	20.0	19.0	25.0	25.0	19.0
8	19.0	11.0	6.0	10.0	11.0	12.0	12.0	15.0	24.0	25.0	25.0	19.0
9	19.0	7.0	6.5	11.5	14.0	11.0	19.0	15.0	24.0	16.0	19.0	21.0
10	19.0	7.0	8.0	9.5	10.0	17.0	13.0	20.0	24.0	25.0	19.0	21.0
11	19.0	10.0	6.0	7.0	8.5	16.0	10.0	15.0	24.0	16.0	18.0	19.0
12	19.0	10.0	6.0	9.5	9.0	16.0	15.0	15.0	19.0	25.0	21.0	19.0
13	17.0	10.0	7.0	9.5	11.0	17.0	15.0	17.0	19.0	19.0	21.0	19.0
14	19.0	10.0	10.0	10.0	13.0	17.0	15.0	15.0	21.0	19.0	15.0	21.0
15	19.0	10.0	10.0	9.0	10.0	11.0	12.0	15.0	24.0	25.0	15.0	19.0
16	19.0	10.0	9.0	9.0	19.0	11.0	15.0	20.0	24.0	26.0	20.0	19.0
17	21.0	10.0	6.0	9.0	20.0	11.0	15.0	20.0	24.0	18.0	16.0	19.0
18	19.0	10.0	6.0	10.0	13.0	17.0	15.0	21.0	21.0	18.0	22.0	20.0
19	19.0	7.0	6.0	10.0	13.0	17.0	15.0	20.0	25.0	19.0	15.0	20.0
20	18.0	9.0	11.0	10.0	13.0	12.0	15.0	15.0	24.0	19.5	16.0	20.0
21	18.0	9.0	6.0	10.0	18.0	12.0	15.5	25.0	21.0	25.0	21.0	20.0
22	18.0	10.0	5.5	9.0	18.0	19.0	15.0	25.0	21.0	25.0	16.0	17.0
23	18.0	7.0	5.0	10.0	13.0	17.0	15.0	21.0	24.0	25.0	21.0	17.0
24	17.0	6.0	6.0	16.0	10.0	13.0	15.0	25.0	25.0	25.0	20.0	17.0
25	17.0	6.5	6.0	11.0	10.0	13.0	15.0	25.0	19.0	18.0	16.0	19.0
26	17.0	6.0	6.0	9.0	10.0	16.0	16.0	25.0	19.0	19.0	16.0	19.0
27	17.0	7.0	5.5	14.0	10.5	11.0	16.0	24.0	20.0	25.0	23.0	19.0
28	17.0	7.0	8.0	10.0	13.0	11.0	19.0	24.0	20.0	25.0	23.0	19.0
29	16.5	7.0	6.0	9.0	10.0	18.0	19.0	24.0	25.0	25.0	23.0	19.0
30	16.0	7.0	5.0	17.0	---	20.0	19.0	24.0	25.0	25.0	23.0	21.0
31	16.0	---	5.0	17.0	---	12.0	---	24.0	---	25.0	20.0	---
MEAN	18.5	9.5	6.5	10.0	12.5	14.0	15.0	19.5	22.5	22.0	20.0	19.0
MAX	21.0	16.5	11.0	17.0	20.0	20.0	19.0	25.0	25.0	26.0	25.0	21.0
MIN	16.0	6.0	5.0	6.0	8.5	11.0	10.0	15.0	19.0	15.0	15.0	17.0

WTR YR 1980 MEAN 16.0 MAX 26.0 MIN 5.0

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 13,79	MAR 10,80	APR 10,80	JUN 9,80
TIME	1000	1010	1230	1115
TOTAL CELLS/ML	39	72	90	1500
DIVERSITY: DIVISION	0.0	0.0	0.0	1.1
.CLASS	0.0	0.0	0.0	1.1
..ORDER	0.0	0.0	0.0	1.1
...FAMILY	0.9	0.0	1.8	1.8
....GENUS	0.9	0.0	1.8	2.0

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....TETRAEDRON	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	--	-	--	-	--	-
..TETRASPORALES								
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	58	4
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	--	-	72#100		--	-	14	1
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	14	1
...DIATOMACEAE								
....DIATOMA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	--	-	13 14		--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	13 14		--	-
...NAVICULACEAE								
....NAVICULA	15# 38		--	-	39# 43		330# 22	
...NITZSCHIACEAE								
....NITZSCHIA	26# 67		--	-	26# 29		690# 46	
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	350# 23	
....ANACYSTIS	--	-	--	-	--	-	58	4

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09426600 BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 7,80		AUG 11,80		SEP 8,80	
TIME	1130		1050		1020	
TOTAL CELLS/ML	840		210		220	
DIVERSITY: DIVISION	0.0		0.0		0.0	
.CLASS	0.0		0.0		0.0	
..ORDER	1.6		0.7		0.0	
...FAMILY	1.0		1.5		1.1	
....GENUS	1.0		1.5		1.1	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....TETRAEDRON	13	3	--	-	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	--	-	--	-	150#	71
..TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	100#	24	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	26	6	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	26	6	13	6	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	120#	56	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	39	9	13	6	13	6
...NITZSCHIACEAE						
....NITZSCHIA	230#	53	65#	31	52#	24
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09427500 LAKE HAVASU NEAR PARKER DAM, AZ-CA

LOCATION.--Lat 34°18'58", long 114°09'23", in NW¼SW¼ sec.28, T.3 N., R.27 E., San Bernardino meridian, in California, San Bernardino County, Hydrologic Unit 15030101, at intake pumping plant for Colorado River aqueduct of Metropolitan Water District of Southern California, 1.8 mi (2.9 km) upstream from Parker Dam on Colorado River, and 149 mi (240 km), downstream from Hoover Dam.

DRAINAGE AREA.--182,700 mi² (473,200 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--July 1938 to current year. Published as "Parker Reservoir near Parker Dam" 1938.

REVISED RECORDS.--WRD Ariz. 1975: 1974 (elevation).

GAGE.--Water-stage recorder. Datum of gage is 400.54 ft (122.085 m) National Geodetic Vertical Datum of 1929. Gage readings have been reduced to elevations NGVD.

REMARKS.--Lake is formed by concrete-arch dam; dam was completed and storage began July 1, 1938. Usable capacity—based on April 1957 re-survey by Bureau of Reclamation between elevations 430.54 ft (131.229 m) and 450.54 ft (137.325 m)—619,400 acre-ft (764 hm³) between elevations 400.54 ft (122.085 m), sill of regulating gates, and 450.54 ft (137.325 m), top of regulating gates. Prior to Oct. 1, 1956, different capacity table used. Dead storage, 28,600 acre-ft (35.3 hm³) below elevation 400.54 ft (122.085 m), based on original survey. About 0.07 ft (0.021 m) fall indicated between gage and Parker Dam under normal operating conditions. Drawdown below elevation 440.54 ft (134.277 m) not legally permissible except by consent of the Metropolitan Water District of Southern California or in an emergency affecting the safety of the dam. Lake is used for flood control, power development, re-regulation of river for irrigation demand, and as a basin from which water is pumped by Metropolitan Water District of Southern California to Colorado River aqueduct. Figures given herein represent usable contents. For record of diversion to Colorado River aqueduct, see record for Colorado River aqueduct near Parker Dam elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 693,000 acre-ft (854 hm³), by temporary use of flashboards, Apr. 18, 1943, June 4, 1953; maximum elevation, 450.77 ft (137.395 m) June 26, 1958; minimum contents, 71,400 acre-ft (88.0 hm³) June 25, 1942, elevation, 412.09 ft (125.605 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 600,000 acre-ft (740 hm³) July 7, elevation, 449.57 ft (137.029 m); minimum, 499,800 acre-ft (616 hm³) Mar. 1, elevation, 444.14 ft (135.374 m).

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	569600	562200	557900	551700	560900	503600	548600	593400	569700	593400	563800	549400
2	570100	561300	557500	551700	561800	508500	555200	591000	588400	594200	563500	545900
3	570500	560000	552800	552400	561600	517900	555800	588900	587600	594000	562200	542500
4	571300	559800	552200	555200	558600	522900	553900	589500	586800	595000	558200	542300
5	571100	558600	553000	558100	555200	516200	552200	590800	588400	594900	556400	543800
6	569700	560700	552600	553000	555800	512600	548800	590800	585700	599200	555400	545400
7	568800	562400	550800	549900	558100	513900	546300	585700	583200	598400	553500	545200
8	568800	562900	549900	548600	557300	518200	546300	582800	582700	593400	551900	544900
9	568800	560900	549500	554100	555400	527400	549400	576400	590300	590300	551300	546300
10	570500	560200	547200	559200	556000	539100	557300	574300	584600	589100	551300	547400
11	572600	560000	548100	559200	553300	542700	556500	574100	581000	581500	550400	549900
12	572400	558600	546700	561500	552200	535500	556200	577500	582300	577700	549400	554300
13	569900	558600	549000	562700	560700	525400	558600	581900	587600	575400	549500	559600
14	566500	559200	548500	563700	568600	520400	561100	585900	591400	573900	548600	565600
15	565600	559600	549000	565400	571100	520600	562200	591400	594000	573900	547900	567100
16	568600	557300	549000	563800	569400	520700	562400	592800	594600	574300	547900	568000
17	567300	556700	548100	565600	565200	516800	564400	591400	593600	573900	547700	568600
18	565800	557300	549500	564400	561300	512500	567800	591600	594000	573400	546100	567500
19	562400	555000	552400	562700	557300	516800	571800	588400	594000	573000	545600	566300
20	561800	554300	558800	561800	550400	526900	574500	583600	593600	573000	544900	564800
21	561100	554300	561500	560000	547600	530100	574300	585900	589500	572000	544100	562900
22	564200	553500	564400	558800	543200	526100	577200	587000	582300	572000	543600	562000
23	566300	553700	561100	558800	538900	522200	582300	586600	573200	574300	543400	560300
24	566900	554800	558800	555000	535500	521100	585500	582500	569000	575100	541600	561300
25	567500	556400	556900	552100	528300	520700	581000	580800	569400	574900	541300	562900
26	565600	556400	555400	551000	517000	524200	580400	580800	571300	574700	544100	563800
27	564800	560700	559000	551200	510200	527400	581900	579600	572800	575600	547200	563800
28	565000	561100	559200	551200	508000	533700	580800	580000	574700	575600	551200	563800
29	563700	559600	557300	558800	500900	540000	588900	586300	578100	575600	555400	562900
30	562200	560700	553100	563300	---	546100	589900	588000	585500	573200	555000	559200
31	560900	---	551700	562700	---	547000	---	589500	---	568000	552100	---
MAX	572600	562900	564400	565600	571100	547000	589900	593400	594800	599200	563800	568600
MIN	560900	553500	546700	548600	500900	503600	546300	574100	569000	568000	541300	542300
(‡)	-8700	-200	-9000	+11000	-61800	+46100	+42900	-400	-4000	-17500	-15900	+7100

CAL YR 1979 MAX 597400 MIN 512800 ‡ +13300
WTR YR 1980 MAX 599200 MIN 500900 ‡ -10400

‡ Change in contents, in acre-feet.

09427500 LAKE HAVASU NEAR PARKER DAM, AZ-CA--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	447.99	447.60	447.37	447.04	447.53	444.35	446.87	449.24	449.05	449.24	447.69	446.91
2	448.02	447.55	447.35	447.04	447.58	444.63	447.23	449.12	448.98	449.28	447.67	446.72
3	448.04	447.48	447.10	447.08	447.57	445.16	447.26	449.01	448.95	449.27	447.60	446.53
4	448.08	447.47	447.07	447.23	447.41	445.44	447.16	449.04	448.90	449.32	447.39	446.52
5	448.07	447.41	447.11	447.38	447.23	445.07	447.07	449.11	448.98	449.31	447.29	446.60
6	448.00	447.52	447.09	447.11	447.26	444.87	446.88	449.11	448.84	449.53	447.24	446.69
7	447.95	447.61	446.99	446.94	447.38	444.94	446.74	448.64	448.71	449.49	447.14	446.68
8	447.95	447.64	446.94	446.87	447.34	445.18	446.74	448.69	448.68	449.24	447.05	446.66
9	447.95	447.53	446.92	447.17	447.24	445.69	446.91	448.35	449.08	449.08	447.02	446.74
10	448.04	447.49	446.79	447.44	447.27	446.34	447.34	448.24	448.78	449.02	447.02	446.80
11	448.15	447.48	446.84	447.44	447.13	446.54	447.30	448.23	448.59	448.62	446.97	446.94
12	448.14	447.41	446.76	447.56	447.07	446.14	447.28	448.41	448.66	448.42	446.91	447.18
13	448.01	447.41	446.89	447.63	447.52	445.58	447.41	448.64	448.94	448.30	446.92	447.46
14	447.83	447.44	446.86	447.68	447.94	445.30	447.54	448.85	449.14	448.22	446.87	447.78
15	447.78	447.46	446.89	447.77	448.07	445.31	447.60	449.14	449.27	448.22	446.83	447.86
16	447.94	447.34	446.89	447.69	447.98	445.52	447.61	449.21	449.31	448.24	446.83	447.91
17	447.87	447.31	446.84	447.78	447.76	445.10	447.72	449.14	449.25	448.22	446.82	447.94
18	447.79	447.34	446.92	447.72	447.55	444.86	447.90	449.15	449.27	448.19	446.73	447.88
19	447.61	447.22	447.08	447.63	447.34	445.10	448.11	448.98	449.27	448.17	446.70	447.82
20	447.58	447.18	447.42	447.58	446.97	445.66	448.25	448.73	449.25	448.17	446.66	447.74
21	447.54	447.18	447.56	447.48	446.81	445.84	448.24	448.85	449.04	448.12	446.62	447.64
22	447.71	447.14	447.72	447.42	446.57	445.62	448.39	448.91	448.66	448.12	446.59	447.59
23	447.82	447.15	447.54	447.42	446.33	445.40	448.66	448.89	448.18	448.24	446.58	447.50
24	447.85	447.21	447.42	447.22	446.14	445.34	448.83	448.67	447.96	448.28	446.49	447.55
25	447.88	447.29	447.32	447.06	445.74	445.32	448.59	448.58	447.98	448.27	446.46	447.64
26	447.78	447.29	447.24	447.00	445.11	445.51	448.56	448.58	448.08	446.26	446.62	447.69
27	447.74	447.52	447.43	447.01	444.73	445.69	448.64	448.52	448.16	448.31	446.79	447.69
28	447.75	447.54	447.44	447.01	444.60	446.04	448.58	448.54	448.26	448.31	447.01	447.69
29	447.68	447.46	447.34	447.42	444.20	446.39	449.01	448.87	448.44	448.31	447.24	447.64
30	447.60	447.52	447.12	447.66	---	446.73	449.06	448.96	448.83	448.18	447.22	447.44
31	447.53	---	447.04	447.63	---	446.78	---	449.04	---	447.91	447.06	---
MAX	448.15	447.64	447.72	447.78	448.07	446.78	449.06	449.24	449.31	449.53	447.69	447.94
MIN	447.53	447.14	446.76	446.87	444.20	444.35	446.74	448.23	447.96	447.91	446.46	446.52

CAL YR 1979 MAX 449.44 MIN 444.88
WTR YR 1980 MAX 449.53 MIN 444.20

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA

LOCATION.--Lat 34°17'44", long 114°08'22", in NW¼NW¼ sec.3, T.2 N., R.27 E., San Bernardino meridian, in California, San Bernardino County, Hydrologic Unit 15030104, on north end of powerplant at Parker Dam, 13 mi (21 km) northeast of Parker, Ariz., and 14 mi (23 km) upstream from Headgate Rock Dam.

DRAINAGE AREA.--182,700 mi^2 (473,200 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to September 1934 (gage heights and fragmentary discharge records), October 1934 to current year. Prior to October 1937, published as "near Parker, Ariz."

REVISED RECORDS.--WSP 1313: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 300.54 ft (91.605 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1967, at site 3.8 mi (6.1 km) downstream at datum 346.23 ft (105.531 m) N.G.V.D.

REMARKS.--Records good except for those below 4,000 ft^3/s (113 m^3/s), which are fair. Flow regulated by Lake Mead since Feb. 1, 1935, by Lake Mohave since Jan. 17, 1950, and by Lake Havasu since July 1, 1938. Many diversions above station. For record of diversion to Colorado River aqueduct and return flows, see record for Colorado River aqueduct near Parker Dam, elsewhere in this report.

AVERAGE DISCHARGE.--46 years, 11,920 ft^3/s (337.6 m^3/s), 8,636,000 acre-ft/yr (10,600 hm^3/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,400 ft^3/s (1,200 m^3/s) Feb. 8, 1937; no flow at Parker Dam for parts of several days in 1942 when gates in dam were closed; minimum daily discharge, 920 ft^3/s (26.1 m^3/s) Jan. 11, 1978.
An unregulated discharge of probably less than 1,350 ft^3/s (38.2 m^3/s) occurred Aug. 18, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,100 ft^3/s (654 m^3/s) July 7, gage height, 72.81 ft (22.192 m); minimum daily, 1,690 ft^3/s (47.9 m^3/s) Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10200	5930	5890	4740	5660	13900	17900	12200	16800	18700	17400	17500
2	9710	7100	5730	4550	5710	14000	16800	14100	17200	19600	17500	18700
3	9170	7330	6100	4320	5730	11600	17300	14500	17400	19700	17600	18600
4	8920	7310	5680	3080	6970	14000	18200	13900	15900	19700	19500	16900
5	8970	6950	5440	2180	7210	15600	18300	13800	14800	19700	19600	16600
6	9280	5590	5810	5510	6680	16000	19100	13500	19000	19800	19500	16700
7	9020	5850	6880	4620	5710	17000	18700	15800	20900	21500	19600	16800
8	8530	5730	6870	4450	7870	17900	18600	16500	20800	21800	19500	16800
9	8520	6130	6840	2770	9660	17100	17500	18300	15200	21600	19600	16800
10	7730	6410	6270	2240	10000	16700	15300	18100	14800	19800	19600	16900
11	7100	6270	6200	3010	9680	14200	18800	18100	17800	21600	19600	16800
12	8550	5940	5390	2900	10100	15900	20100	16300	17100	21700	19600	16800
13	8740	5850	5300	3320	6060	15800	20100	15800	17500	21600	19600	16700
14	9030	5590	6480	3540	3020	17700	20100	14200	19000	21500	19700	15700
15	7510	5420	6560	3510	2870	18900	20500	13800	19200	21500	19600	16500
16	6120	6820	6700	3780	3890	19200	21000	15000	19900	21400	19500	16600
17	7560	6920	6720	3450	3760	19600	21000	16500	20100	21500	19500	16600
18	7750	7050	6670	4590	3740	19600	21000	16900	19200	21100	19500	16600
19	9520	6640	5570	5480	3820	16900	21000	16900	20000	21400	19500	16600
20	9920	6130	3980	5730	5390	16800	21000	17700	20500	21300	19500	16600
21	9930	6120	3760	6450	5430	19300	21000	15400	20900	21300	19500	16500
22	7330	5690	1690	6600	4810	19600	20600	14400	21400	21200	19400	16400
23	7120	6200	6490	6480	5430	19600	19300	16300	22000	19400	19400	16400
24	6990	6270	5910	9100	5860	19300	17600	17100	22000	19400	19300	15300
25	6600	6160	5650	8340	7540	19700	19600	17100	21600	19300	19400	15300
26	8050	5910	5370	8250	9410	18300	19800	15800	21600	19300	17400	15500
27	7710	5350	4340	8510	9630	16900	18300	16300	21600	19400	17400	15400
28	7750	6240	4890	8200	9920	17400	18700	15200	21600	19400	17400	15400
29	7460	5670	4890	5120	13300	17600	14900	13900	21600	18800	17400	15400
30	7080	4910	6710	4430	---	18100	13000	15800	19800	17500	17500	15500
31	6840	---	5030	4080	---	18300	---	16800	---	17300	17500	---
TOTAL	254710	185480	175810	153330	194860	532500	565100	486000	577200	628800	586600	494900
MEAN	8216	6183	5671	4946	6719	17180	18840	15680	19240	20280	18920	16500
MAX	10200	7330	6880	9100	13300	19700	21000	18300	22000	21800	19700	18700
MIN	6120	4910	1690	2180	2870	11600	13000	12200	14800	17300	17400	15300
AC-FT	505200	367900	348700	304100	386500	1056000	1121000	964000	1145000	1247000	1164000	981600

CAL YR 1979 TOTAL 3627310 MEAN 9938 MAX 17900 MIN 1690 AC-FT 7195000
WTR YR 1980 TOTAL 4835290 MEAN 13210 MAX 22000 MIN 1690 AC-FT 9591000

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1963 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: February 1954 to August 1970.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
01...	0135	14600	1040	--	24.5	--	--	--	--	--	--
09...	0500	4700	1100	--	21.0	--	--	--	--	--	--
15...	0415	13200	1060	--	20.0	--	--	--	--	--	--
15...	1230	9350	1080	8.0	22.0	6.8	--	8	310	190	77
22...	0350	13100	1100	--	21.5	--	--	--	--	--	--
NOV											
05...	0422	2140	1080	7.6	20.0	--	--	--	320	190	78
13...	0515	4750	1080	--	18.0	--	--	--	--	--	--
13...	1230	6780	1100	8.0	17.0	9.0	--	--	310	180	76
19...	0445	2070	1110	--	16.5	--	--	--	--	--	--
26...	0527	2130	1090	--	15.0	--	--	--	--	--	--
DEC											
03...	0330	2660	1090	7.8	14.5	--	--	--	330	190	79
10...	0510	4730	1120	--	13.5	--	--	--	--	--	--
10...	1230	4310	1300	7.2	13.0	7.4	--	<1	310	180	78
17...	0115	2200	1100	--	11.5	--	--	--	--	--	--
31...	0519	2600	1100	--	8.5	--	--	--	--	--	--
JAN											
07...	0415	2130	1130	7.8	11.0	--	--	--	340	210	83
07...	1200	4650	1150	--	11.0	10.8	--	<1	310	190	76
14...	0615	2150	1120	--	11.0	--	--	--	--	--	--
21...	0945	2150	1100	--	11.0	--	--	--	--	--	--
28...	0520	4790	1140	--	11.5	--	--	--	--	--	--
FEB											
04...	0350	2260	1120	8.0	15.5	--	--	--	310	180	79
11...	0230	2130	1120	--	15.5	--	--	--	--	--	--
11...	1300	9300	1120	8.2	13.0	8.4	--	2	350	230	86
18...	0230	2140	1140	--	13.5	--	--	--	--	--	--
25...	0434	2180	1100	--	14.5	--	--	--	--	--	--
MAR											
03...	0445	9440	1000	--	15.5	--	--	--	--	--	--
10...	0600	18700	1070	--	16.0	--	--	--	--	--	--
10...	1210	19400	1080	7.8	15.0	--	170	--	290	170	73
17...	0235	18900	964	--	14.5	--	--	--	--	--	--
24...	0500	19200	998	--	15.5	--	--	--	--	--	--
31...	0505	4690	1070	--	15.5	--	--	--	--	--	--
APR											
07...	0330	4650	1110	--	16.0	--	--	--	--	--	--
10...	1030	16400	1190	8.1	20.5	--	--	<1	340	210	85
14...	0430	20000	1140	--	20.0	--	--	--	--	--	--
21...	0540	21000	1070	--	16.5	--	--	--	--	--	--
28...	0345	18300	1090	--	19.0	--	--	--	--	--	--
MAY											
05...	0430	91000	1080	--	21.0	--	--	--	--	--	--
12...	0235	13600	1080	--	20.0	--	--	--	--	--	--
14...	1215	18800	1110	7.9	20.5	--	--	--	330	200	83
19...	0515	18200	1080	--	20.0	--	--	--	--	--	--
27...	0330	9440	1100	--	20.0	--	--	--	--	--	--
JUN											
02...	0130	9440	1130	--	20.0	--	--	--	--	--	--
09...	0235	20400	1130	--	20.0	--	--	--	--	--	--
09...	1230	13500	1200	8.1	22.5	6.6	8	3	350	200	87
16...	0600	18900	1130	--	18.5	--	--	--	--	--	--
23...	0200	21000	1130	--	--	--	--	--	--	--	--
23...	0330	21500	1130	--	--	--	--	--	--	--	--
JUL											
07...	0930	22000	1130	--	--	--	--	--	--	--	--
07...	1200	22000	1175	8.1	23.0	7.8	--	12	340	210	88
14...	0610	21000	1110	--	--	--	--	--	--	--	--
21...	0230	21000	1120	--	--	--	--	--	--	--	--
28...	0230	19000	1070	--	--	--	--	--	--	--	--
AUG											
04...	0235	19000	1150	--	--	--	--	--	--	--	--
11...	0716	19000	1120	--	--	--	--	--	--	--	--
11...	1200	19800	1100	8.0	26.0	8.0	29	4	330	200	81
18...	0430	19000	1130	--	--	--	--	--	--	--	--
25...	0100	19000	1120	--	--	--	--	--	--	--	--
SEP											
01...	0200	17100	1120	--	--	--	--	--	--	--	--
08...	0510	14300	1030	--	--	--	--	--	--	--	--
08...	1150	16000	1060	7.7	24.0	8.2	--	6	320	190	77
15...	0420	9860	1100	--	--	--	--	--	--	--	--
22...	0030	16000	1100	--	--	--	--	--	--	--	--
29...	0340	4670	1120	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA--Continued

INSTRUMENTATION.--Water temperature recorder from February 1954 to August 1970.

REMARKS.--Prior to October 1968, published as 09428000.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
OCT											
01...	--	--	--	--	--	--	--	--	--	672	--
09...	--	--	--	--	--	--	--	--	--	712	--
15...	--	--	--	--	--	--	--	--	--	660	--
15...	29	110	2.7	5.5	120	300	89	.2	9.0	725	693
22...	--	--	--	--	--	--	--	--	--	710	--
NOV											
05...	30	110	2.7	5.1	130	320	90	.4	9.8	704	723
13...	--	--	--	--	--	--	--	--	--	690	--
13...	28	100	2.5	5.3	130	310	75	.4	9.6	699	683
19...	--	--	--	--	--	--	--	--	--	720	--
26...	--	--	--	--	--	--	--	--	--	704	--
DEC											
03...	31	120	2.9	5.0	140	300	94	.3	9.2	714	724
10...	--	--	--	--	--	--	--	--	--	720	--
10...	29	110	2.7	5.1	130	280	90	.4	11	--	683
17...	--	--	--	--	--	--	--	--	--	674	--
31...	--	--	--	--	--	--	--	--	--	710	--
JAN											
07...	31	110	2.6	5.2	130	310	93	.4	9.1	--	721
07...	29	100	2.5	5.3	120	280	93	.3	9.2	724	668
14...	--	--	--	--	--	--	--	--	--	720	--
21...	--	--	--	--	--	--	--	--	--	714	--
28...	--	--	--	--	--	--	--	--	--	720	--
FEB											
04...	28	110	2.7	5.1	130	300	99	.4	8.7	720	710
11...	--	--	--	--	--	--	--	--	--	722	--
11...	32	99	2.3	5.1	120	300	92	.3	8.7	--	696
18...	--	--	--	--	--	--	--	--	--	740	--
25...	--	--	--	--	--	--	--	--	--	716	--
MAR											
03...	--	--	--	--	--	--	--	--	--	602	--
10...	--	--	--	--	--	--	--	--	--	702	--
10...	27	97	2.5	5.3	120	270	86	.4	9.8	663	641
17...	--	--	--	--	--	--	--	--	--	626	--
24...	--	--	--	--	--	--	--	--	--	636	--
31...	--	--	--	--	--	--	--	--	--	688	--
APR											
07...	--	--	--	--	--	--	--	--	--	716	--
10...	30	110	2.6	5.1	130	300	91	.4	10	--	710
14...	--	--	--	--	--	--	--	--	--	740	--
21...	--	--	--	--	--	--	--	--	--	692	--
28...	--	--	--	--	--	--	--	--	--	704	--
MAY											
05...	--	--	--	--	--	--	--	--	--	648	--
12...	--	--	--	--	--	--	--	--	--	700	--
14...	30	100	2.4	5.2	130	280	88	.4	9.4	--	675
19...	--	--	--	--	--	--	--	--	--	710	--
27...	--	--	--	--	--	--	--	--	--	714	--
JUN											
02...	--	--	--	--	--	--	--	--	--	726	--
09...	--	--	--	--	--	--	--	--	--	716	--
09...	32	110	2.6	4.9	150	310	93	.4	9.4	747	738
16...	--	--	--	--	--	--	--	--	--	730	--
23...	--	--	--	--	--	--	--	--	--	730	--
23...	--	--	--	--	--	--	--	--	--	734	--
JUL											
07...	--	--	--	--	--	--	--	--	--	762	--
07...	30	110	2.6	5.7	130	280	92	--	9.7	732	712
14...	--	--	--	--	--	--	--	--	--	732	--
21...	--	--	--	--	--	--	--	--	--	712	--
28...	--	--	--	--	--	--	--	--	--	708	--
AUG											
04...	--	--	--	--	--	--	--	--	--	734	--
11...	--	--	--	--	--	--	--	--	--	722	--
11...	30	100	2.4	5.8	130	290	94	.6	9.2	717	689
18...	--	--	--	--	--	--	--	--	--	738	--
25...	--	--	--	--	--	--	--	--	--	730	--
SEP											
01...	--	--	--	--	--	--	--	--	--	728	--
08...	--	--	--	--	--	--	--	--	--	676	--
06...	30	100	2.4	6.0	130	270	90	.4	9.5	811	662
15...	--	--	--	--	--	--	--	--	--	700	--
22...	--	--	--	--	--	--	--	--	--	720	--
29...	--	--	--	--	--	--	--	--	--	766	--

09427520 COLORADO RIVER BELOW PARKER DAM, AZ--CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT										
01...	.91	--	--	--	--	--	--	--	--	--
09...	.97	--	--	--	--	--	--	--	--	--
15...	.90	--	--	--	--	--	--	--	--	--
15...	.99	--	.19	.61	.71	3.1	.020	.06	--	.010
22...	.97	--	--	--	--	--	--	--	--	--
NOV										
05...	.96	--	.29	--	--	--	--	--	--	--
13...	.94	--	--	--	--	--	--	--	--	--
13...	.95	--	.12	.49	.64	2.8	.030	.09	--	.050
19...	.98	--	--	--	--	--	--	--	--	--
26...	.96	--	--	--	--	--	--	--	--	--
DEC										
03...	.97	--	.17	--	--	--	--	--	.010	--
10...	.98	--	--	--	--	--	--	--	--	--
10...	.93	--	.16	.62	.75	3.3	.060	.18	--	.070
17...	.92	--	--	--	--	--	--	--	--	--
31...	.97	--	--	--	--	--	--	--	--	--
JAN										
07...	.98	--	.25	--	--	--	--	--	--	.000
07...	.98	--	.12	.70	.82	3.6	.030	.09	--	.030
14...	.98	--	--	--	--	--	--	--	--	--
21...	.97	--	--	--	--	--	--	--	--	--
28...	.98	--	--	--	--	--	--	--	--	--
FEB										
04...	.98	--	.44	--	--	--	--	--	--	--
11...	.98	--	--	--	--	--	--	--	--	--
11...	.95	--	.17	.57	.72	3.2	.020	.06	--	.030
18...	1.01	--	--	--	--	--	--	--	--	--
25...	.97	--	--	--	--	--	--	--	--	--
MAR										
03...	.82	--	--	--	--	--	--	--	--	--
10...	.95	--	--	--	--	--	--	--	--	--
10...	.90	4	.06	.86	.92	4.1	.050	.15	--	.010
17...	.85	--	--	--	--	--	--	--	--	--
24...	.86	--	--	--	--	--	--	--	--	--
31...	.94	--	--	--	--	--	--	--	--	--
APR										
07...	.97	--	--	--	--	--	--	--	--	--
10...	.97	--	.01	1.4	1.4	6.3	.030	.09	--	.000
14...	1.01	--	--	--	--	--	--	--	--	--
21...	.94	--	--	--	--	--	--	--	--	--
28...	.96	--	--	--	--	--	--	--	--	--
MAY										
05...	.88	--	--	--	--	--	--	--	--	--
12...	.95	--	--	--	--	--	--	--	--	--
14...	.92	--	.18	.54	.72	3.2	.030	.09	--	.010
19...	.97	--	--	--	--	--	--	--	--	--
27...	.97	--	--	--	--	--	--	--	--	--
JUN										
02...	.99	--	--	--	--	--	--	--	--	--
09...	.97	--	--	--	--	--	--	--	--	--
09...	1.02	14	.21	.67	.91	4.0	.020	.06	--	.010
16...	.99	--	--	--	--	--	--	--	--	--
23...	.99	--	--	--	--	--	--	--	--	--
23...	1.00	--	--	--	--	--	--	--	--	--
JUL										
07...	1.04	--	--	--	--	--	--	--	--	--
07...	1.00	1	.15	.60	.76	3.4	.060	.18	--	.010
14...	1.00	--	--	--	--	--	--	--	--	--
21...	.97	--	--	--	--	--	--	--	--	--
28...	.96	--	--	--	--	--	--	--	--	--
AUG										
04...	1.00	--	--	--	--	--	--	--	--	--
11...	.98	--	--	--	--	--	--	--	--	--
11...	.98	14	.07	.58	.66	2.9	.030	.09	--	.000
18...	1.00	--	--	--	--	--	--	--	--	--
25...	.99	--	--	--	--	--	--	--	--	--
SEP										
01...	.99	--	--	--	--	--	--	--	--	--
08...	.92	--	--	--	--	--	--	--	--	--
08...	1.10	3	.06	.58	.66	2.9	.060	.18	--	.030
15...	.95	--	--	--	--	--	--	--	--	--
22...	.98	--	--	--	--	--	--	--	--	--
29...	1.04	--	--	--	--	--	--	--	--	--

09427520 COLORADO RIVER BELOW PARKER DAM, AZ--CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, TOTAL (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL (UG/L AS CD)	CHRO-MIUM, TOTAL (UG/L AS CR)	COPPER, TOTAL (UG/L AS CU)	IRON, TOTAL (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT										
01...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
15...	.03	3	400	170	140	1	0	4	440	20
22...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	--	--	--	--	140	--	--	--	--	<10
13...	--	--	--	--	--	--	--	--	--	--
13...	.15	5	400	170	150	0	0	3	260	<10
19...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
DEC										
03...	--	--	--	--	140	--	--	--	--	30
10...	--	--	--	--	--	--	--	--	--	--
10...	.21	4	500	250	140	5	0	6	170	<10
17...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	.00	--	--	--	150	--	--	--	--	<10
07...	.09	--	300	180	140	0	0	0	120	<10
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	150	--	--	--	--	<10
11...	--	--	--	--	--	--	--	--	--	--
11...	.09	3	100	170	140	0	20	3	230	20
18...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
MAR										
03...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	.03	4	200	190	130	0	0	6	310	<10
17...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
APR										
07...	--	--	--	--	--	--	--	--	--	--
10...	.00	2	200	190	170	0	0	4	160	40
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
14...	.03	3	200	160	140	0	0	4	90	30
19...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
JUN										
02...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	.03	4	100	180	130	1	0	6	260	30
16...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
JUL										
07...	--	--	--	--	--	--	--	--	--	--
07...	.03	4	100	170	150	3	0	29	130	10
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
AUG										
04...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	.00	5	0	220	160	0	0	3	150	<10
18...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
SEP										
01...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
08...	.09	5	100	160	180	0	10	3	240	<10
15...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09427520 COLORADO RIVER BELOW PARKER DAM, AZ--CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL (UG/L AS PB)	MANGANESE, TOTAL (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL (UG/L AS AG)	ZINC, TOTAL (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)
OCT										
01...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
15...	12	40	5	.1	3	0	<10	5.1	.00	2
22...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	--	--	1	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
13...	9	20	2	.1	2	0	60	4.5	.00	0
19...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
DEC										
03...	--	--	<1	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	6	10	<1	.6	2	0	10	8.0	.00	3
17...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	--	--	<1	--	--	--	--	--	--	--
07...	3	30	3	.0	1	0	--	7.2	.00	0
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	<1	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	0	10	3	.0	3	0	20	--	.00	1
18...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
MAR										
03...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	3	10	3	.0	2	0	10	--	.00	0
17...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
APR										
07...	--	--	--	--	--	--	--	--	--	--
10...	1	20	5	.0	3	0	310	5.7	.00	0
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
14...	2	10	6	.1	2	0	20	14	.00	0
19...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
JUN										
02...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
09...	3	20	7	.0	3	0	30	4.1	.00	1
16...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
JUL										
07...	--	--	--	--	--	--	--	--	--	--
07...	12	20	5	.0	3	2	40	6.5	.00	0
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
AUG										
04...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	3	30	3	.0	3	0	20	4.7	.00	1
18...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
SEP										
01...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
08...	6	30	<1	.0	3	0	20	4.2	.01	4
15...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09428500 COLORADO RIVER INDIAN RESERVATION MAIN CANAL NEAR PARKER, AZ

LOCATION.--Two gages, lat 34°10'04", long 114°16'33", in SE¼NW¼ sec.31, T.10 N., R.19 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030104. Forebay gage, on left wall of canal intake, 90 ft (30 m) upstream from diversion gates at Arizona end of Headgate Rock Dam. Tailrace gage, on right bank of canal 250 ft (80 m) downstream from gates. Both gages are on Colorado River Indian Reservation 1.7 mi (2.7 km) northeast of Parker and 14 mi (23 km) downstream from Parker Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1915 to current year (prior to January 1937, fiscal year diversions only; January 1937 to September 1954, monthly diversions only).

REVISED RECORDS.--WSP 1513: 1915-36.

GAGE.--Water-stage recorders above and below intake gates to record head and recorder to show gate openings (since Oct. 1, 1972), with supplementary tape gages read daily and at time of each gate change (prior to Oct. 1, 1972, tape gages only). Datum of gages is 350.00 ft (106.680 m), datum in use locally, or 350.51 ft (106.835 m) National Geodetic Vertical Datum of 1929. Normal operating level of forebay is 364.3 ft (111.04 m); prior to July 9, 1962, normal operating level of forebay was 362.9 ft (110.61 m), datum in use locally. Prior to October 1954, discharge computed by various methods as described in WSP 1313.

REMARKS.--Records excellent. Daily diversions computed on basis of head on intake gates and gate openings. Records show water diverted to project and surface return flows to Colorado River through two wasteways and two drains; three of these are equipped with water-stage recorders. Water used for irrigation of 75,136 acres (304 km^2) during 1979 calendar year on east side of Colorado River between Parker and Ehrenberg.

COOPERATION.--Log of canal intake gate opening (supplementary record) furnished by Bureau of Indian Affairs.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily, 1,650 ft^3/s (46.7 m^3/s) Aug. 6, 1977; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	671	507	298	349	.00	323	1160	893	825	1450	1590	991
2	699	473	300	468	.00	404	1270	771	946	1470	1590	1020
3	741	424	301	553	.00	460	1300	680	954	1480	1590	1180
4	674	323	268	340	375	549	1270	585	1150	1460	1590	1350
5	636	410	387	.00	378	660	1230	591	1340	1470	1590	1440
6	592	473	340	.00	424	696	1120	841	1230	1440	1550	1460
7	619	404	326	.00	495	634	1060	944	1160	1420	1580	1430
8	577	368	324	.00	562	496	1170	936	1100	1390	1560	1510
9	569	329	366	.00	565	471	1220	895	1250	1300	1550	1310
10	512	307	385	.00	517	557	1240	809	1330	1390	1560	1260
11	531	274	383	.00	572	461	1310	762	1290	1400	1560	1370
12	523	254	477	.00	741	542	1260	802	1260	1460	1540	1280
13	517	368	636	.00	732	616	1250	833	1290	1430	1550	1190
14	508	319	698	.00	538	652	1260	901	1290	1490	1570	1060
15	503	381	586	.00	332	718	1320	925	1290	1510	1560	1060
16	496	448	435	.00	228	687	1300	895	1320	1530	1500	1050
17	498	313	426	.00	260	761	1230	876	1360	1530	1470	1060
18	455	317	434	.00	107	810	1120	721	1390	1550	1450	1150
19	477	342	403	.00	.00	888	1170	899	1430	1550	1360	1170
20	418	362	425	.00	.00	992	1100	922	1380	1610	1410	1280
21	397	365	457	.00	.00	943	1080	998	1320	1630	1550	1240
22	396	309	457	.00	.00	964	1110	979	1310	1580	1280	1160
23	392	276	353	.00	.00	778	1160	919	1310	1500	1290	1110
24	391	303	287	.00	30	851	1150	869	1470	1630	1270	1130
25	384	286	306	.00	75	920	1150	803	1210	1640	1180	1200
26	392	308	309	.00	231	1060	1110	807	1200	1610	1120	1120
27	393	327	322	.00	400	1060	997	847	1170	1590	1050	915
28	327	402	420	.00	432	1060	1030	881	1240	1560	994	816
29	358	401	450	.00	367	1060	1090	909	1260	1390	1040	875
30	385	317	389	.00	---	967	995	899	1250	1410	1040	966
31	412	---	352	.00	---	1070	---	895	---	1450	970	---
TOTAL	15443	10690	12296	1710.00	8361.00	23110	35232	26287	37325	46320	43304	35133
MEAN	498	356	397	55.2	288	745	1174	848	1244	1494	1397	1171
MAX	741	507	698	553	741	1070	1320	998	1470	1640	1590	1510
MIN	327	254	268	.00	.00	323	995	585	825	1300	970	816
AC-FT	30630	21200	24390	3390	16580	45840	69880	52140	74030	91880	85890	69690
(†)	23110	18800	16750	12380	11620	17700	23400	24240	24480	27550	29500	28200

CAL YR 1979 TOTAL 292831.00 MEAN 802 MAX 1600 MIN .00 AC-FT 580800 † 259700
WTR YR 1980 TOTAL 295211.00 MEAN 807 MAX 1640 MIN .00 AC-FT 585600 † 257700

† Return surface flow, in acre-feet, to Colorado River.

09428500 COLORADO RIVER INDIAN RESERVATION MAIN CANAL NEAR PARKER, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	1030	656	1080	8.0	23.0	300	180	75	28	100	2.5	5.5
09...	0915	443	1100	--	21.0	--	--	--	--	--	--	--
15...	0830	525	1100	--	20.0	--	--	--	--	--	--	--
22...	0850	407	1120	--	--	--	--	--	--	--	--	--
24...	0820	266	1070	--	23.0	--	--	--	--	--	--	--
29...	0850	408	1090	--	--	--	--	--	--	--	--	--
NOV												
05...	0830	495	1050	7.7	17.0	310	180	77	29	110	2.7	5.1
13...	0830	1080	1060	--	16.0	--	--	--	--	--	--	--
19...	0945	814	1080	--	16.5	--	--	--	--	--	--	--
26...	1010	198	1090	--	15.5	--	--	--	--	--	--	--
DEC												
03...	1245	325	1150	7.8	13.5	330	180	81	31	130	3.1	5.4
10...	0915	400	1130	--	14.5	--	--	--	--	--	--	--
17...	0910	275	1200	--	13.0	--	--	--	--	--	--	--
31...	0930	323	1100	--	11.0	--	--	--	--	--	--	--
FEB												
04...	0930	500	1180	7.9	14.0	330	200	82	31	110	2.6	5.5
11...	0930	600	1100	--	12.0	--	--	--	--	--	--	--
19...	0940	1.4	1180	--	14.5	--	--	--	--	--	--	--
25...	0930	75	1120	--	14.5	--	--	--	--	--	--	--
MAR												
03...	1100	456	1000	8.1	13.0	280	160	71	26	95	2.5	5.5
10...	0930	566	972	--	15.5	--	--	--	--	--	--	--
17...	0930	694	1050	--	15.0	--	--	--	--	--	--	--
24...	1220	763	1060	--	15.0	--	--	--	--	--	--	--
31...	0855	993	994	--	15.5	--	--	--	--	--	--	--
APR												
07...	1125	1080	1120	8.0	16.5	340	210	86	31	120	2.8	5.3
14...	0910	686	1140	--	22.0	--	--	--	--	--	--	--
21...	0915	1030	1100	--	19.5	--	--	--	--	--	--	--
28...	1045	986	1110	--	19.5	--	--	--	--	--	--	--
MAY												
05...	0845	547	1080	7.6	20.0	320	190	79	29	100	2.4	5.3
12...	0815	770	1090	--	20.0	--	--	--	--	--	--	--
19...	0805	1100	1100	--	22.0	--	--	--	--	--	--	--
27...	0830	837	1100	--	22.0	--	--	--	--	--	--	--
JUN												
02...	0820	900	1130	8.0	21.0	340	210	89	29	110	2.6	5.3
09...	0830	1200	1180	--	21.0	--	--	--	--	--	--	--
23...	0850	1400	1140	--	--	--	--	--	--	--	--	--
30...	0900	1280	1130	--	--	--	--	--	--	--	--	--
JUL												
07...	0830	1420	1130	7.5	23.0	330	190	81	30	110	2.7	6.4
14...	1400	1450	1100	--	--	--	--	--	--	--	--	--
21...	0900	1620	1100	--	--	--	--	--	--	--	--	--
28...	0915	1560	1090	--	--	--	--	--	--	--	--	--
AUG												
04...	0900	1630	1120	7.5	25.5	320	200	79	30	110	2.7	5.6
04...	1120	275	2570	7.9	28.0	680	460	170	61	320	5.4	6.8
11...	0830	1490	1110	--	--	--	--	--	--	--	--	--
18...	0820	1430	1100	--	--	--	--	--	--	--	--	--
25...	0840	1290	1100	--	--	--	--	--	--	--	--	--
SEP												
02...	0905	1050	1100	7.6	25.5	320	200	80	29	110	2.7	6.0
08...	0810	1460	--	--	--	--	--	--	--	--	--	--
15...	0840	1060	1080	--	--	--	--	--	--	--	--	--
22...	0830	1210	1090	--	--	--	--	--	--	--	--	--
29...	0850	850	1080	--	--	--	--	--	--	--	--	--

09428500 COLORADO RIVER INDIAN RESERVATION MAIN CANAL NEAR PARKER, AZ--Continued

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
01...	120	290	90	.4	9.1	692	671	.94	.26	150	<10
09...	--	--	--	--	--	710	--	.97	--	--	--
15...	--	--	--	--	--	690	--	.94	--	--	--
22...	--	--	--	--	--	726	--	.99	--	--	--
24...	--	--	--	--	--	692	--	.94	--	--	--
29...	--	--	--	--	--	710	--	.97	--	--	--
NOV											
05...	130	290	100	.4	10	678	702	.92	.43	150	<10
13...	--	--	--	--	--	702	--	.95	--	--	--
19...	--	--	--	--	--	714	--	.97	--	--	--
26...	--	--	--	--	--	718	--	.98	--	--	--
DEC											
03...	150	310	100	.4	9.3	758	758	1.03	.21	140	<10
10...	--	--	--	--	--	730	--	.99	--	--	--
17...	--	--	--	--	--	770	--	1.05	--	--	--
31...	--	--	--	--	--	696	--	.95	--	--	--
FEB											
04...	130	310	110	.4	9.0	766	739	1.04	.60	150	<10
11...	--	--	--	--	--	712	--	.97	--	--	--
19...	--	--	--	--	--	760	--	1.03	--	--	--
25...	--	--	--	--	--	720	--	.98	--	--	--
MAR											
03...	120	260	79	.4	9.7	650	620	.88	.30	140	<10
10...	--	--	--	--	--	646	--	.88	--	--	--
17...	--	--	--	--	--	684	--	.93	--	--	--
24...	--	--	--	--	--	676	--	.92	--	--	--
31...	--	--	--	--	--	638	--	.87	--	--	--
APR											
07...	130	310	100	.4	9.2	720	752	.98	2.7	210	20
14...	--	--	--	--	--	732	--	1.00	--	--	--
21...	--	--	--	--	--	718	--	.98	--	--	--
28...	--	--	--	--	--	700	--	.95	--	--	--
MAY											
05...	130	280	90	.3	8.9	690	672	.94	.31	160	20
12...	--	--	--	--	--	706	--	.96	--	--	--
19...	--	--	--	--	--	712	--	.97	--	--	--
27...	--	--	--	--	--	714	--	.97	--	--	--
JUN											
02...	130	310	95	.4	8.3	740	726	.99	.11	150	<10
09...	--	--	--	--	--	748	--	1.02	--	--	--
23...	--	--	--	--	--	758	--	1.00	--	--	--
30...	--	--	--	--	--	730	--	.99	--	--	--
JUL											
07...	140	310	92	.6	8.9	730	727	.99	.79	150	<10
14...	--	--	--	--	--	730	--	.99	--	--	--
21...	--	--	--	--	--	682	--	.93	--	--	--
28...	--	--	--	--	--	700	--	.95	--	--	--
AUG											
04...	120	320	99	.4	9.1	730	727	.99	.39	160	<10
04...	220	660	380	.6	13	--	1750	2.38	.47	370	30
11...	--	--	--	--	--	726	--	.99	--	--	--
18...	--	--	--	--	--	730	--	.99	--	--	--
25...	--	--	--	--	--	718	--	.98	--	--	--
SEP											
02...	120	290	98	.4	8.3	716	695	.97	.29	180	<10
08...	--	--	--	--	--	738	--	1.00	--	--	--
15...	--	--	--	--	--	672	--	.91	--	--	--
22...	--	--	--	--	--	724	--	.98	--	--	--
29...	--	--	--	--	--	720	--	.98	--	--	--

< Actual value is known to be less than value shown.

09428510 COLORADO RIVER INDIAN RESERVATION POSTON WASTEWAY NEAR POSTON, AZ

LOCATION.--Lat 33°59'58", long 114°26'41", in SW¼SE¼ sec.28, T.8 N., R.21 W., Yuma County, Hydrologic Unit 15030104, at gaging station 0.8 mi (1.3 km) upstream from mouth, 2.5 mi (4.0 km) west of Poston, and 14 mi (23 km) southwest of Parker.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0950	188	1620	8.1	24.5	470	270	120	41	170	3.4	6.3
09...	0755	235	1730	--	21.0	--	--	--	--	--	--	--
15...	0745	153	1580	--	21.5	--	--	--	--	--	--	--
29...	0815	129	1780	--	18.0	--	--	--	--	--	--	--
NOV												
05...	0735	92	2000	7.6	16.0	580	400	150	51	220	4.0	6.9
13...	1010	85	1700	--	17.0	--	--	--	--	--	--	--
19...	0910	89	1760	--	16.0	--	--	--	--	--	--	--
26...	1130	75	1710	--	16.5	--	--	--	--	--	--	--
DEC												
03...	0230	103	1260	7.8	14.5	360	190	89	34	140	3.2	5.3
10...	1100	91	1460	--	15.5	--	--	--	--	--	--	--
17...	1050	75	1760	--	14.0	--	--	--	--	--	--	--
31...	1100	54	1330	--	13.5	--	--	--	--	--	--	--
JAN												
07...	1050	81	2350	7.8	13.5	610	400	150	57	300	5.3	6.7
14...	1100	60	2670	--	17.0	--	--	--	--	--	--	--
21...	1035	54	1970	--	14.5	--	--	--	--	--	--	--
28...	1110	46	2170	--	15.5	--	--	--	--	--	--	--
FEB												
04...	1100	36	2860	7.8	15.5	760	530	190	69	380	6.0	7.0
11...	1100	60	2010	--	14.0	--	--	--	--	--	--	--
19...	1100	48	2030	--	16.5	--	--	--	--	--	--	--
25...	1045	42	2100	--	16.5	--	--	--	--	--	--	--
MAR												
03...	1010	37	1860	7.9	16.0	500	300	130	43	210	4.1	7.0
10...	1045	130	1660	--	18.0	--	--	--	--	--	--	--
17...	1110	113	1660	--	16.0	--	--	--	--	--	--	--
24...	1345	67	1680	--	16.0	--	--	--	--	--	--	--
31...	1020	66	1060	--	15.5	--	--	--	--	--	--	--
APR												
07...	0945	234	1820	7.9	21.0	530	310	140	44	190	3.6	6.3
14...	1030	41	1920	--	22.0	--	--	--	--	--	--	--
21...	1035	101	1930	--	19.0	--	--	--	--	--	--	--
28...	1225	106	1710	--	20.0	--	--	--	--	--	--	--
MAY												
05...	1030	115	2350	7.6	235	620	410	160	54	270	4.7	6.7
12...	1000	116	1840	--	20.0	--	--	--	--	--	--	--
19...	0940	137	1940	--	23.5	--	--	--	--	--	--	--
27...	1010	153	1750	--	22.0	--	--	--	--	--	--	--
02...	0945	169	1860	8.0	23.5	650	470	170	54	230	3.9	5.7
09...	1020	171	1760	--	21.0	--	--	--	--	--	--	--
16...	1000	166	1810	--	24.5	--	--	--	--	--	--	--
23...	0930	166	1830	--	--	--	--	--	--	--	--	--
30...	1020	180	1820	--	--	--	--	--	--	--	--	--
JUL												
07...	1110	40	1700	7.7	23.5	470	250	120	42	170	3.4	6.4
14...	1540	50	1920	--	30.0	--	--	--	--	--	--	--
21...	1330	34	1720	--	31.0	--	--	--	--	--	--	--
28...	1105	170	1680	--	--	--	--	--	--	--	--	--
AUG												
04...	1040	200	1830	79.0	28.5	510	370	130	45	190	3.7	6.2
11...	1015	215	1970	--	--	--	--	--	--	--	--	--
18...	0955	256	1450	--	--	--	--	--	--	--	--	--
25...	1035	263	1700	--	--	--	--	--	--	--	--	--
SEP												
02...	1030	177	1980	76.0	24.5	600	350	160	48	200	3.6	7.2
08...	1000	169	1790	--	--	--	--	--	--	--	--	--
15...	1000	166	1900	--	--	--	--	--	--	--	--	--
22...	1010	205	1940	--	--	--	--	--	--	--	--	--
29...	0810	113	2010	--	--	--	--	--	--	--	--	--

09428510 COLORADO RIVER INDIAN RESERVATION POSTON WASTEWAY NEAR POSTON, AZ--Continued

PERIOD OF RECORD.--October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1965-68 available from district office in Tucson, Ariz.

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)
OCT											
01...	200	450	150	.4	17	1040	1080	1.41	.54	220	<10
09...	--	--	--	--	--	1120	--	1.52	--	--	--
15...	--	--	--	--	--	1020	--	1.39	--	--	--
29...	--	--	--	--	--	1070	--	1.46	--	--	--
NOV											
05...	180	540	210	.6	21	1280	1310	1.78	.46	290	30
13...	--	--	--	--	--	1100	--	1.50	--	--	--
19...	--	--	--	--	--	1160	--	1.58	--	--	--
26...	--	--	--	--	--	1120	--	1.52	--	--	--
DEC											
03...	170	330	110	.4	10	790	822	1.07	.16	170	<10
10...	--	--	--	--	--	942	--	1.28	--	--	--
17...	--	--	--	--	--	1130	--	1.54	--	--	--
31...	--	--	--	--	--	864	--	1.18	--	--	--
JAN											
07...	210	570	320	.6	20	1520	1550	2.07	.48	330	10
14...	--	--	--	--	--	1730	--	2.35	--	--	--
21...	--	--	--	--	--	1260	--	1.71	--	--	--
28...	--	--	--	--	--	1400	--	1.90	--	--	--
FEB											
04...	230	730	420	.7	25	1850	1960	2.52	.41	430	30
11...	--	--	--	--	--	1300	--	1.77	--	--	--
19...	--	--	--	--	--	1320	--	1.80	--	--	--
25...	--	--	--	--	--	1340	--	1.82	--	--	--
MAR											
03...	200	480	190	.6	16	1290	1200	1.75	.68	1200	20
10...	--	--	--	--	--	1050	--	1.43	--	--	--
17...	--	--	--	--	--	1050	--	1.43	--	--	--
24...	--	--	--	--	--	1090	--	1.48	--	--	--
31...	--	--	--	--	--	686	--	.93	--	--	--
APR											
07...	220	490	180	.6	18	1160	1200	1.58	.47	320	10
14...	--	--	--	--	--	1230	--	1.67	--	--	--
21...	--	--	--	--	--	1210	--	1.65	--	--	--
28...	--	--	--	--	--	1110	--	1.51	--	--	--
MAY											
05...	210	570	320	.5	16	1490	1530	2.03	.51	340	50
12...	--	--	--	--	--	1120	--	1.52	--	--	--
19...	--	--	--	--	--	1250	--	1.70	--	--	--
27...	--	--	--	--	--	1100	--	1.50	--	--	--
JUN											
02...	180	590	230	.4	21	1230	1410	1.92	.08	220	30
09...	--	--	--	--	--	1130	--	1.54	--	--	--
16...	--	--	--	--	--	1160	--	1.58	--	--	--
23...	--	--	--	--	--	1130	--	1.54	--	--	--
30...	--	--	--	--	--	1170	--	1.59	--	--	--
JUL											
07...	220	430	160	1.2	16	1100	1080	1.50	.41	250	<10
14...	--	--	--	--	--	1240	--	1.69	--	--	--
21...	--	--	--	--	--	1100	--	1.50	--	--	--
28...	--	--	--	--	--	1100	--	1.50	--	--	--
AUG											
04...	140	510	190	.6	18	1190	1180	1.62	.30	270	<10
11...	--	--	--	--	--	1270	--	1.73	--	--	--
18...	--	--	--	--	--	946	--	1.29	--	--	--
25...	--	--	--	--	--	1100	--	1.50	--	--	--
SEP											
02...	250	560	210	.6	20	1260	1360	1.71	.73	370	<10
08...	--	--	--	--	--	1150	--	1.56	--	--	--
15...	--	--	--	--	--	1200	--	1.63	--	--	--
22...	--	--	--	--	--	1290	--	1.75	--	--	--
29...	--	--	--	--	--	1330	--	1.81	--	--	--

< Actual value is known to be less than value shown.

09429000 PALO VERDE CANAL NEAR BLYTHE, CA

LOCATION.--Lat 33°43'55", long 114°30'40", in NW¼NE¼ sec.19, T.5 S., R.24 E., San Bernardino meridian, Riverside County, Hydrologic Unit 15030104, at canal intake structure on west side of Palo Verde diversion dam, 10 mi (16 km) northeast of Blythe and 44 mi (71 km) downstream from Headgate Rock Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1922 to December 1923, January 1925 to current year (prior to October 1950, monthly discharge only).

REVISED RECORD.--WSP 1213: 1946-48.

GAGE.--Recording gages above and below intakes to record head. Since May 18, 1964, recorder to show gate openings. Datum of gage is: Forebay gage, National Geodetic Vertical Datum of 1929; tailrace gage, 274.13 ft (83.555 m) NGVD. Aug. 7, 1950, to Nov. 30, 1952, water-stage recorder on tailrace and auxiliary recorder 0.5 mi (0.8 km) downstream and Dec. 1, 1952, to Oct. 28, 1957, recording gage above and below former intake structure 0.2 mi (0.3 km) upstream, at different datums.

REMARKS.--Records good. Daily diversions computed on basis of head on intake gates and gate openings. Records published herein represent flow diverted from Colorado River for irrigation of 92,349 acres (374 km^2) during the 1979 calendar year. Return flows to Colorado River are measured by 11 wasteways and drains extending throughout the project; 5 of these are equipped with water stage recorder and Parshall flume, 3 are equipped with Sparling flowmeters. Return flows have not been subtracted; combined monthly return flows are given in table below.

AVERAGE DISCHARGE.--30 years (water years 1951-80), 1,213 ft^3/s (34.35 m^3/s), 878,800 acre-ft/yr (1,080 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,230 ft^3/s (63.2 m^3/s) July 20, 1977; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	1060	706	192	660	853	1900	1300	1220	1780	2060	1420
2	1050	1030	657	.00	620	834	1810	1420	1340	1790	1950	1470
3	1100	1140	727	.00	578	1070	1660	1430	1380	1760	1860	1540
4	1110	970	808	216	673	1260	1590	1130	1460	1610	1880	1600
5	965	1090	791	66	793	1390	1590	831	1650	1620	1920	1730
6	831	929	770	13	834	1430	1490	898	1550	1620	1870	1670
7	893	936	845	44	1000	1380	1660	1200	1470	1690	1460	1510
8	986	868	768	35	1090	1410	1890	1740	1360	1780	1550	1570
9	1110	800	721	86	1080	1300	1840	1660	1540	1840	1500	1600
10	1040	735	870	89	1030	1490	1910	1620	1550	1870	1230	1710
11	1060	698	836	100	1170	1110	1930	1540	1630	1950	1740	1810
12	960	836	919	225	1170	1160	2030	1610	1780	1990	2090	1650
13	945	828	861	485	870	1060	1880	1580	1840	1840	2090	1570
14	699	843	953	556	593	986	1850	1510	1700	1840	2000	1520
15	886	764	879	566	487	981	1920	1560	1570	1860	1940	1540
16	881	789	753	581	458	1010	1990	1550	1770	1920	1930	1560
17	930	709	777	685	424	1340	1900	1350	1930	1920	1860	1510
18	960	705	859	671	374	1480	1910	1260	1840	1970	1900	1410
19	947	789	829	576	382	1490	1830	1420	1810	1840	2000	1470
20	926	973	869	567	394	1460	1930	1470	1850	1800	1930	1460
21	777	1000	860	729	406	1450	1910	1470	1710	1850	2010	1320
22	816	778	910	729	386	1390	1730	1480	1670	1840	2010	1450
23	960	799	654	851	409	1400	1740	1530	1710	1990	1790	1550
24	921	783	609	1060	472	1660	1740	1400	1760	2010	1610	1510
25	811	756	530	1080	551	1640	1780	1280	1750	2020	1240	1420
26	911	809	745	1020	566	1660	1740	1450	1840	2080	1370	1420
27	882	784	793	938	794	1640	1840	1380	1820	2050	1410	1430
28	854	731	933	1130	805	1610	1810	1370	1780	2120	1520	1260
29	856	700	1030	1160	831	1640	1560	1340	1770	2150	1590	1260
30	852	677	1020	837	---	1540	1350	1250	1790	2170	1420	1300
31	912	---	795	725	---	1750	---	1220	---	2090	1410	---
TOTAL	28851	25309	25077	16012.00	19900	41874	53710	43249	49840	58660	54140	45240
MEAN	931	844	809	517	686	1351	1790	1395	1661	1892	1746	1508
MAX	1110	1140	1030	1160	1170	1750	2030	1740	1930	2170	2090	1810
MIN	699	677	530	.00	374	834	1350	831	1220	1610	1230	1260
AC-FT	57230	50200	49740	31760	39470	83060	106500	85780	98860	116400	107400	89730
(†)	42200	39210	37850	30070	33150	34820	43220	46970	43360	45830	49120	47870

CAL YR 1979 TOTAL 479837.00 MEAN 1315 MAX 2180 MIN .00 AC-FT 951800 † 492100
WTR YR 1980 TOTAL 461862.00 MEAN 1262 MAX 2170 MIN .00 AC-FT 916100 † 493700

† Return flows, in acre-feet, to Colorado River.

09429000 PALO VERDE CANAL NEAR BLYTHE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0130	869	1090	8.0	24.0	320	200	84	27	97	2.4	5.5
09...	0700	1100	1140	--	24.0	--	--	--	--	--	--	--
15...	1040	517	1170	--	21.5	--	--	--	--	--	--	--
22...	0715	493	1120	--	19.5	--	--	--	--	--	--	--
29...	1100	479	1130	--	18.5	--	--	--	--	--	--	--
NOV												
05...	1500	1070	1070	7.7	18.5	320	--	78	31	110	2.7	5.8
13...	1150	911	1120	--	16.0	--	--	--	--	--	--	--
19...	0825	742	1110	--	16.0	--	--	--	--	--	--	--
26...	1220	510	1110	--	14.5	--	--	--	--	--	--	--
DEC												
03...	0320	570	1100	7.9	14.5	330	190	81	31	120	2.9	5.1
10...	1145	988	1130	--	14.0	--	--	--	--	--	--	--
17...	1145	530	1140	--	12.0	--	--	--	--	--	--	--
31...	1150	548	1250	--	11.0	--	--	--	--	--	--	--
JAN												
07...	1140	44	1150	7.9	13.0	330	190	82	30	110	2.6	5.4
14...	1150	980	1390	--	13.5	--	--	--	--	--	--	--
21...	1140	85	1400	--	13.0	--	--	--	--	--	--	--
28...	1150	1220	1230	--	13.5	--	--	--	--	--	--	--
FEB												
04...	0930	657	1140	8.0	14.0	330	200	82	30	110	2.6	5.1
11...	1145	1300	1200	--	13.5	--	--	--	--	--	--	--
19...	1145	1670	1180	--	14.0	--	--	--	--	--	--	--
25...	1130	545	1150	--	16.0	--	--	--	--	--	--	--
MAR												
03...	1320	1190	1020	7.9	14.5	280	160	71	26	96	2.5	5.7
10...	1140	1600	1050	--	16.0	--	--	--	--	--	--	--
17...	1150	1530	1030	--	14.5	--	--	--	--	--	--	--
24...	1440	1270	1050	--	17.0	--	--	--	--	--	--	--
31...	1110	1090	1020	--	16.0	--	--	--	--	--	--	--
APR												
07...	0830	1640	1110	8.0	16.5	350	230	87	32	100	2.3	5.3
14...	1130	1900	1130	--	21.0	--	--	--	--	--	--	--
21...	1115	1870	1100	--	20.5	--	--	--	--	--	--	--
28...	1305	1860	1220	--	19.0	--	--	--	--	--	--	--
MAY												
05...	1330	1420	1100	7.2	21.0	330	200	85	29	100	2.4	6.4
12...	1100	1670	1100	--	20.0	--	--	--	--	--	--	--
19...	1035	1380	1090	--	23.5	--	--	--	--	--	--	--
27...	1130	1390	1100	--	22.0	--	--	--	--	--	--	--
JUN												
02...	1100	1440	1140	8.1	22.0	330	220	81	31	110	2.6	5.3
09...	1110	1630	1240	--	21.0	--	--	--	--	--	--	--
16...	1040	1810	1360	--	23.5	--	--	--	--	--	--	--
23...	1030	1780	1150	--	--	--	--	--	--	--	--	--
30...	1110	1810	1320	--	--	--	--	--	--	--	--	--
JUL												
07...	1200	1780	1140	7.7	25.5	350	210	89	31	100	2.3	5.4
14...	1630	183	1080	--	--	--	--	--	--	--	--	--
21...	1430	1950	1110	--	--	--	--	--	--	--	--	--
28...	1150	2090	1170	--	--	--	--	--	--	--	--	--
AUG												
04...	1130	2090	1110	8.0	25.5	320	200	80	30	110	2.7	5.0
11...	1130	1210	1110	--	--	--	--	--	--	--	--	--
18...	1040	1900	1140	--	--	--	--	--	--	--	--	--
25...	1120	1610	1080	--	--	--	--	--	--	--	--	--
SEP												
02...	1130	1390	1010	7.7	25.5	320	200	78	30	110	2.7	6.3
08...	1050	1550	1110	--	--	--	--	--	--	--	--	--
15...	1100	1550	1090	--	--	--	--	--	--	--	--	--
22...	0725	1060	1120	--	--	--	--	--	--	--	--	--
22...	1100	1570	1090	--	--	--	--	--	--	--	--	--

09429000 PALO VERDE CANAL NEAR BLYTHE, CA--Continued

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)
OCT											
01...	120	290	91	.4	8.8	698	677	.95	.25	120	<10
09...	--	--	--	--	--	736	--	1.00	--	--	--
15...	--	--	--	--	--	750	--	1.02	--	--	--
22...	--	--	--	--	--	718	--	.98	--	--	--
29...	--	--	--	--	--	732	--	1.00	--	--	--
NOV											
05...	150	310	90	.4	10	680	--	.92	.16	140	<10
13...	--	--	--	--	--	700	--	.95	--	--	--
19...	--	--	--	--	--	722	--	.98	--	--	--
26...	--	--	--	--	--	748	--	1.02	--	--	--
DEC											
03...	140	310	100	.4	9.0	710	741	.97	.15	140	10
10...	--	--	--	--	--	728	--	.99	--	--	--
17...	--	--	--	--	--	738	--	1.00	--	--	--
31...	--	--	--	--	--	816	--	1.11	--	--	--
JAN											
07...	140	300	100	.5	11	750	725	1.02	.29	160	<10
14...	--	--	--	--	--	840	--	1.14	--	--	--
21...	--	--	--	--	--	970	--	1.32	--	--	--
28...	--	--	--	--	--	784	--	1.07	--	--	--
FEB											
04...	130	310	100	.4	8.9	730	726	.99	.21	140	<10
11...	--	--	--	--	--	774	--	1.05	--	--	--
19...	--	--	--	--	--	764	--	1.04	--	--	--
25...	--	--	--	--	--	738	--	1.00	--	--	--
MAR											
03...	120	260	85	.4	9.1	654	627	.89	.27	160	<10
10...	--	--	--	--	--	690	--	.94	--	--	--
17...	--	--	--	--	--	634	--	.86	--	--	--
24...	--	--	--	--	--	674	--	.92	--	--	--
31...	--	--	--	--	--	672	--	.91	--	--	--
APR											
07...	120	300	93	.4	9.5	710	700	.97	.13	140	10
14...	--	--	--	--	--	734	--	1.00	--	--	--
21...	--	--	--	--	--	710	--	.97	--	--	--
28...	--	--	--	--	--	788	--	1.07	--	--	--
MAY											
05...	130	300	96	.3	8.0	720	708	.96	1.1	140	20
12...	--	--	--	--	--	702	--	.95	--	--	--
19...	--	--	--	--	--	704	--	.96	--	--	--
27...	--	--	--	--	--	714	--	.97	--	--	--
JUN											
02...	110	300	94	.4	8.7	738	697	.95	.04	160	<10
09...	--	--	--	--	--	800	--	1.09	--	--	--
16...	--	--	--	--	--	872	--	1.19	--	--	--
23...	--	--	--	--	--	748	--	1.02	--	--	--
30...	--	--	--	--	--	858	--	1.17	--	--	--
JUL											
07...	140	310	93	.8	8.8	730	723	.99	.25	170	<10
14...	--	--	--	--	--	704	--	.96	--	--	--
21...	--	--	--	--	--	696	--	.95	--	--	--
28...	--	--	--	--	--	768	--	1.04	--	--	--
AUG											
04...	120	310	97	.3	9.6	730	715	.99	.13	160	<10
11...	--	--	--	--	--	730	--	.99	--	--	--
18...	--	--	--	--	--	766	--	1.04	--	--	--
25...	--	--	--	--	--	700	--	.95	--	--	--
SEP											
02...	120	290	98	.4	8.8	708	696	.96	58	190	<10
08...	--	--	--	--	--	732	--	1.00	--	--	--
15...	--	--	--	--	--	700	--	.95	--	--	--
22...	--	--	--	--	--	760	--	1.03	--	--	--
22...	--	--	--	--	--	720	--	.98	--	--	--

< Actual value is known to be less than value shown.

09429010 COLORADO RIVER AT PALO VERDE DAM, AZ-CA

LOCATION.--Lat 33°43'55", long 114°30'40", in NW¼NE¼ sec.19, T.5 S., R.24 E., San Bernardino meridian, in California, Riverside County, Hydrologic Unit 15030104, on west side of Palo Verde Diversion Dam, 10 mi (16 km) northeast of Blythe, Calif., and 44 mi (71 km) downstream from Headgate Rock Dam.

DRAINAGE AREA.--186,200 mi^2 (482,300 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--April 1969 to current year. If records (available in files of Tucson District office) for the two Colorado River Indian Reservation drains entering below Palo Verde Dam are added to records for this station, records equivalent to those published 1956-69 as "Colorado River below Palo Verde Dam" can be obtained.

GAGE.--Two water-stage recorders, one above and one below dam, to record head on gates, and water-stage recorder to record gate opening. Supplementary water-stage recorder above dam operated by Geological Survey and supplementary water-stage recorder below dam operated by Palo Verde Irrigation District. Datum of gages is National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Record does not include diversion to Palo Verde Canal. (See elsewhere in this report.) Daily discharge computed from relation between discharge, head, and gate openings. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Lake Havasu.

AVERAGE DISCHARGE.--11 years, 7,586 ft^3/s (214.8 m^3/s), 5,496,000 acre-ft/yr (6,780 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 17,400 ft^3/s (493 m^3/s) Apr. 21, June 24, 1980; minimum daily, 1,060 ft^3/s (30.0 m^3/s) Nov. 25, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 17,400 ft^3/s (493 m^3/s) Apr. 21, June 24; minimum daily, 1,650 ft^3/s (46.7 m^3/s) Dec. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9340	5130	3870	5400	3640	12200	14600	10100	13500	15300	13200	14600
2	8320	4790	4970	4300	5240	11800	14200	10200	13700	14600	13400	15300
3	7960	5770	4700	4100	5220	10400	13300	11700	13300	15200	13400	15400
4	7310	5930	4980	3100	5110	10400	13800	12300	12900	15500	14000	14500
5	7530	5880	4620	4160	5900	11400	14600	12300	11500	15400	14800	13300
6	7630	5670	4360	4400	5850	13300	14900	11700	12500	15400	14900	14100
7	7910	4490	4710	5680	5180	11600	15500	11200	16200	15500	14800	13500
8	7620	4870	5570	4820	4400	14500	14900	12500	16500	17000	14800	13600
9	7290	4730	5570	4460	6200	14000	14400	13900	16600	16900	14800	13600
10	7090	4890	5370	2940	7930	14500	13200	14500	8650	16400	14800	12800
11	6440	5540	5030	2520	7490	10400	12400	14400	14300	15600	15000	13300
12	6030	5200	4770	2990	7940	13200	15400	14400	13800	16600	14900	13300
13	7140	4890	4050	2700	7960	12600	16100	12600	13100	16900	15000	13700
14	7660	4690	4080	2970	4160	13700	16100	12300	14800	16800	15000	13300
15	7790	4630	4950	3120	2820	15800	16100	10500	15000	16700	15100	14000
16	5430	4470	5160	3110	2470	15800	16500	10900	15300	16600	15100	14400
17	5900	5730	5360	3190	3510	16000	16800	13000	15800	16700	15100	14300
18	5440	5900	5230	3010	3380	16100	16800	13800	15600	16600	15200	14000
19	7440	5910	5100	4040	3520	15800	17000	13600	15100	16700	15100	13900
20	7230	5280	4260	4750	3670	13200	17100	14000	16000	16800	15300	13600
21	8140	5460	3070	4860	4880	13500	17400	13500	16300	16700	15200	13400
22	7900	4580	2760	5590	4810	15800	17000	11300	16700	16800	15300	13200
23	5520	4760	1650	5620	4390	16200	16500	12100	17000	16300	15400	13100
24	5730	4980	5350	5210	4820	16000	14900	13000	17400	15200	15700	12500
25	5660	5100	4920	5420	5050	15700	14700	13600	17300	14900	16400	12100
26	5910	5380	4800	6820	6590	16100	16000	13200	17000	15000	15400	11800
27	6460	5210	4680	7110	8530	14100	15800	12500	17100	14900	14600	11900
28	6580	4580	3340	6890	7620	14000	14900	12300	17100	15000	14700	12000
29	6450	4960	3580	7000	8340	14000	14800	11700	17100	15100	14600	12000
30	5950	4670	3880	4030	---	14400	11200	11700	17200	13800	14600	12200
31	5840	---	4980	4270	---	14600	---	12900	---	13400	14700	---
TOTAL	214640	154070	139720	138580	156620	431100	456900	387700	454350	490300	460300	402700
MEAN	6924	5136	4507	4470	5401	13910	15230	12510	15150	15820	14850	13420
MAX	9340	5930	5570	7110	8530	16200	17400	14500	17400	17000	16400	15400
MIN	5430	4470	1650	2520	2470	10400	11200	10100	8650	13400	13200	11800
AC-FT	425700	305600	277100	274900	310700	855100	906300	769000	901200	972500	913000	798800

CAL YR 1979 TOTAL 2733910 MEAN 7490 MAX 13200 MIN 1300 AC-FT 5423000
WTR YR 1980 TOTAL 3886980 MEAN 10620 MAX 17400 MIN 1650 AC-FT 7710000

09429030 PALO VERDE DRAIN NEAR PARKER, AZ

LOCATION.--Lat 33°45'25", long 114°29'48", in NE¼SW¼ sec.24, T.5 N., R.22 W., Yuma County, Hydrologic Unit 15030104, at bridge, 0.5 mi (0.8 km) above mouth, 0.5 mi (0.8 km) northeast of Palo Verde Dam, 9 mi (14 km) north of Ehrenberg, and 31 mi (50 km) southwest of Parker.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0920	45	2110	8.0	23.0	670	440	170	60	240	4.0	6.3
09...	0715	42	1930	--	20.0	--	--	--	--	--	--	--
15...	1030	40	2110	--	20.0	--	--	--	--	--	--	--
22...	0725	39	2060	--	17.0	--	--	--	--	--	--	--
29...	1050	39	2040	--	19.0	--	--	--	--	--	--	--
NOV												
05...	0655	38	2050	8.0	16.0	620	450	160	54	230	4.0	6.4
13...	1130	36	1860	--	15.5	--	--	--	--	--	--	--
19...	0850	34	1920	--	16.5	--	--	--	--	--	--	--
26...	1210	33	1900	--	15.0	--	--	--	--	--	--	--
DEC												
03...	0300	33	2000	8.0	15.0	630	450	160	55	220	3.8	5.7
10...	1130	27	1880	--	15.5	--	--	--	--	--	--	--
17...	1125	30	2050	--	14.5	--	--	--	--	--	--	--
31...	1130	29	1810	--	13.5	--	--	--	--	--	--	--
JAN												
07...	1120	25	1930	7.7	15.0	630	400	160	56	220	3.8	5.5
14...	1130	28	1970	--	14.5	--	--	--	--	--	--	--
21...	1120	30	1860	--	13.5	--	--	--	--	--	--	--
28...	1130	30	2010	--	16.0	--	--	--	--	--	--	--
FEB												
04...	0920	30	1970	7.6	18.0	590	370	150	53	230	4.1	5.2
11...	1135	28	1980	--	15.5	--	--	--	--	--	--	--
19...	1135	28	1980	--	16.5	--	--	--	--	--	--	--
25...	1120	28	2000	--	16.5	--	--	--	--	--	--	--
MAR												
03...	0930	30	2010	8.1	15.5	550	340	140	48	220	4.1	6.2
10...	1120	35	2010	--	17.0	--	--	--	--	--	--	--
17...	1140	40	2060	--	17.0	--	--	--	--	--	--	--
24...	1420	43	1980	--	18.5	--	--	--	--	--	--	--
31...	1050	48	2050	--	18.0	--	--	--	--	--	--	--
APR												
07...	0915	47	2190	7.8	21.0	710	480	190	58	220	3.6	5.8
14...	1125	49	2400	--	21.0	--	--	--	--	--	--	--
21...	1100	55	2220	--	21.5	--	--	--	--	--	--	--
28...	1245	47	2000	--	21.5	--	--	--	--	--	--	--
MAY												
05...	1150	55	2230	7.5	23.5	650	460	170	55	230	3.9	5.9
12...	1030	53	2210	--	21.0	--	--	--	--	--	--	--
27...	1100	52	2180	--	22.0	--	--	--	--	--	--	--
JUN												
02...	1030	56	2090	8.0	23.5	350	220	91	30	110	2.6	5.4
09...	1050	51	2150	--	21.0	--	--	--	--	--	--	--
16...	1030	15	2220	--	23.5	--	--	--	--	--	--	--
23...	1010	55	2140	--	--	--	--	--	--	--	--	--
30...	1015	55	2130	--	--	--	--	--	--	--	--	--
JUL												
07...	1140	60	2130	7.8	24.5	620	390	160	54	230	4.0	5.8
14...	1615	55	2180	--	31.0	--	--	--	--	--	--	--
21...	1415	52	2140	--	31.0	--	--	--	--	--	--	--
28...	1140	53	2100	--	28.5	--	--	--	--	--	--	--
AUG												
04...	1110	54	2140	8.0	26.5	660	450	170	56	240	4.1	5.6
11...	1100	41	2160	--	30.0	--	--	--	--	--	--	--
18...	1025	60	2090	--	--	--	--	--	--	--	--	--
25...	1100	65	2150	--	--	--	--	--	--	--	--	--
SEP												
02...	1110	50	2220	7.7	24.5	660	430	170	57	240	4.1	7.0
08...	1030	67	2150	--	--	--	--	--	--	--	--	--
15...	1040	65	2140	--	--	--	--	--	--	--	--	--
22...	1040	50	2170	--	--	--	--	--	--	--	--	--
29...	0745	60	2170	--	22.0	--	--	--	--	--	--	--

09429030 PALO VERDE DRAIN NEAR PARKER, AZ--Continued

PERIOD OF RECORD.--October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz. Formerly published as 09429030 C.R.I.R. Levee Drain near Parker, AZ.

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)
OCT											
01...	230	600	240	.4	24	1360	1480	1.85	.41	270	10
09...	--	--	--	--	--	1250	--	1.70	--	--	--
15...	--	--	--	--	--	1340	--	1.82	--	--	--
22...	--	--	--	--	--	1320	--	1.80	--	--	--
29...	--	--	--	--	--	1320	--	1.80	--	--	--
NOV											
05...	170	560	220	.3	23	1320	1360	1.80	.36	210	<10
13...	--	--	--	--	--	1200	--	1.63	--	--	--
19...	--	--	--	--	--	1240	--	1.69	--	--	--
26...	--	--	--	--	--	1250	--	1.70	--	--	--
DEC											
03...	180	540	220	.3	22	1230	1330	1.67	.34	210	30
10...	--	--	--	--	--	1220	--	1.66	--	--	--
17...	--	--	--	--	--	1380	--	1.88	--	--	--
31...	--	--	--	--	--	1160	--	1.58	--	--	--
JAN											
07...	230	530	200	.4	24	1250	1340	1.70	.55	230	10
14...	--	--	--	--	--	1260	--	1.71	--	--	--
21...	--	--	--	--	--	1200	--	1.63	--	--	--
28...	--	--	--	--	--	1300	--	1.77	--	--	--
FEB											
04...	220	560	220	.3	22	1250	1370	1.70	.36	210	<10
11...	--	--	--	--	--	1250	--	1.70	--	--	--
19...	--	--	--	--	--	1220	--	1.66	--	--	--
25...	--	--	--	--	--	1300	--	1.77	--	--	--
MAR											
03...	210	530	210	.3	20	1310	1300	1.78	.41	240	50
10...	--	--	--	--	--	1330	--	1.81	--	--	--
17...	--	--	--	--	--	1350	--	1.84	--	--	--
24...	--	--	--	--	--	1200	--	1.63	--	--	--
31...	--	--	--	--	--	1270	--	1.73	--	--	--
APR											
07...	230	610	240	.4	20	2190	1480	2.98	.26	240	40
14...	--	--	--	--	--	1570	--	2.14	--	--	--
21...	--	--	--	--	--	1440	--	1.96	--	--	--
28...	--	--	--	--	--	1330	--	1.81	--	--	--
MAY											
05...	190	610	250	.3	22	1450	1460	1.99	.33	230	20
12...	--	--	--	--	--	1420	--	1.93	--	--	--
27...	--	--	--	--	--	1420	--	1.93	--	--	--
JUN											
02...	130	320	100	.4	8.7	1350	744	1.01	.08	140	<10
09...	--	--	--	--	--	1410	--	1.92	--	--	--
16...	--	--	--	--	--	1430	--	1.94	--	--	--
23...	--	--	--	--	--	1380	--	1.88	--	--	--
30...	--	--	--	--	--	1370	--	1.86	--	--	--
JUL											
07...	230	570	220	.7	15	1370	1400	1.86	.42	190	10
14...	--	--	--	--	--	1410	--	1.92	--	--	--
21...	--	--	--	--	--	1410	--	1.92	--	--	--
28...	--	--	--	--	--	1340	--	1.82	--	--	--
AUG											
04...	210	610	250	.4	16	1380	1480	1.88	.19	240	50
11...	--	--	--	--	--	1400	--	1.90	--	--	--
18...	--	--	--	--	--	1350	--	1.84	--	--	--
25...	--	--	--	--	--	1410	--	1.92	--	--	--
SEP											
02...	230	580	250	.4	22	1450	1470	1.97	.51	260	80
08...	--	--	--	--	--	1360	--	1.85	--	--	--
15...	--	--	--	--	--	1390	--	1.89	--	--	--
22...	--	--	--	--	--	1420	--	1.93	--	--	--
29...	--	--	--	--	--	1400	--	1.90	--	--	--

< Actual value is known to be less than value shown.

09429060 COLORADO RIVER INDIAN RESERVATION LOWER MAIN DRAIN NEAR PARKER, AZ

LOCATION.--Lat 33°45'40", long 114°29'05", in SW¼NW¼ sec.19, T.5 N., R.21 W., Yuma County, Hydrologic Unit 15030104, at gaging station, 2.8 mi (4.5 km) above outlet to Colorado River, and 31 mi (50 km) south of Parker.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0925	195	2380	8.1	23.5	680	460	170	63	290	4.8	7.3
09...	0725	206	2230	--	21.5	--	--	--	--	--	--	--
15...	1020	205	2230	--	21.0	--	--	--	--	--	--	--
22...	0510	186	1810	--	18.0	--	--	--	--	--	--	--
22...	0830	189	2330	--	20.0	--	--	--	--	--	--	--
29...	1040	159	2450	--	18.0	--	--	--	--	--	--	--
NOV												
05...	0650	182	2440	7.6	20.0	690	460	170	65	290	4.8	6.8
13...	1140	177	2320	--	17.0	--	--	--	--	--	--	--
19...	0845	187	2140	--	16.5	--	--	--	--	--	--	--
24...	1200	169	2240	--	16.0	--	--	--	--	--	--	--
DEC												
03...	0310	177	2240	7.9	14.0	650	500	160	61	300	5.1	6.6
10...	1125	174	2370	--	16.0	--	--	--	--	--	--	--
17...	1135	168	2230	--	13.5	--	--	--	--	--	--	--
31...	1140	143	2650	--	14.0	--	--	--	--	--	--	--
JAN												
07...	1130	168	2510	7.8	16.0	660	440	160	63	320	5.4	6.7
14...	1140	105	3280	--	15.5	--	--	--	--	--	--	--
21...	1130	96	3360	--	13.5	--	--	--	--	--	--	--
28...	1140	98	3450	--	17.0	--	--	--	--	--	--	--
FEB												
04...	0910	90	3550	7.8	18.5	880	610	220	80	440	6.5	7.0
11...	1125	144	2510	--	14.5	--	--	--	--	--	--	--
19...	1125	121	2980	--	15.5	--	--	--	--	--	--	--
25...	1110	114	2940	--	18.0	--	--	--	--	--	--	--
MAR												
03...	0940	176	2430	8.1	17.0	630	420	160	56	310	5.4	7.6
10...	1130	195	2410	--	18.0	--	--	--	--	--	--	--
17...	1130	198	2430	--	16.0	--	--	--	--	--	--	--
24...	1430	192	2580	--	--	--	--	--	--	--	--	--
31...	1100	212	2150	--	16.5	--	--	--	--	--	--	--
APR												
07...	0905	234	2080	7.7	18.0	730	510	190	63	320	5.1	7.2
14...	1115	258	2400	--	20.0	--	--	--	--	--	--	--
21...	1105	239	2330	--	20.5	--	--	--	--	--	--	--
28...	1255	250	2310	--	20.5	--	--	--	--	--	--	--
MAY												
05...	1140	256	1820	7.5	22.0	550	330	140	48	190	3.5	6.2
12...	1040	248	2340	--	20.0	--	--	--	--	--	--	--
19...	1025	248	2370	--	24.0	--	--	--	--	--	--	--
27...	1110	221	2670	--	22.0	--	--	--	--	--	--	--
JUN												
02...	1045	219	2880	7.8	23.5	780	550	200	68	360	5.6	7.2
09...	1100	215	2770	--	21.5	--	--	--	--	--	--	--
16...	1040	253	2300	--	24.5	--	--	--	--	--	--	--
23...	1015	275	2500	--	--	--	--	--	--	--	--	--
30...	1100	238	2560	--	22.0	--	--	--	--	--	--	--
JUL												
07...	1150	267	2090	8.0	24.0	560	360	140	51	230	4.2	6.7
14...	1620	212	2920	--	30.0	--	--	--	--	--	--	--
21...	1420	244	2250	--	32.0	--	--	--	--	--	--	--
28...	1135	215	2460	--	--	--	--	--	--	--	--	--
AUG												
04...	1120	275	2570	7.9	28.0	680	460	170	61	320	5.4	6.8
11...	1110	295	2270	--	--	--	--	--	--	--	--	--
18...	1030	320	2460	--	--	--	--	--	--	--	--	--
25...	1110	395	2180	--	--	--	--	--	--	--	--	--
SEP												
02...	1115	322	2150	8.0	25.5	590	380	150	53	250	4.5	7.9
08...	1040	310	2360	--	--	--	--	--	--	--	--	--
15...	1045	345	2130	--	--	--	--	--	--	--	--	--
22...	1000	345	2020	--	--	--	--	--	--	--	--	--
29...	0740	251	2180	--	23.5	--	--	--	--	--	--	--

09429060 COLORADO RIVER INDIAN RESERVATION LOWER MAIN DRAIN NEAR PARKER, AZ--Continued

PERIOD OF RECORD.--October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)
OCT											
01...	220	590	320	.5	19	1540	1600	2.09	.62	170	10
09...	--	--	--	--	--	1440	--	1.96	--	--	--
15...	--	--	--	--	--	1450	--	1.97	--	--	--
22...	--	--	--	--	--	1150	--	1.56	--	--	--
22...	--	--	--	--	--	1490	--	2.03	--	--	--
29...	--	--	--	--	--	1590	--	2.16	--	--	--
NOV											
05...	230	600	320	.5	20	1570	1610	2.14	.61	340	10
13...	--	--	--	--	--	1520	--	2.07	--	--	--
19...	--	--	--	--	--	1380	--	1.88	--	--	--
24...	--	--	--	--	--	1350	--	1.84	--	--	--
DEC											
03...	150	590	340	.6	18	1460	1570	1.99	.43	350	50
10...	--	--	--	--	--	1530	--	2.08	--	--	--
17...	--	--	--	--	--	1478	--	2.01	--	--	--
31...	--	--	--	--	--	1720	--	2.34	--	--	--
JAN											
07...	220	620	330	.6	19	1630	1650	2.22	.46	380	10
14...	--	--	--	--	--	2180	--	2.96	--	--	--
21...	--	--	--	--	--	2160	--	2.94	--	--	--
28...	--	--	--	--	--	2230	--	3.03	--	--	--
FEB											
04...	270	700	590	.8	28	2570	2230	3.50	.53	570	30
11...	--	--	--	--	--	1600	--	2.18	--	--	--
19...	--	--	--	--	--	2120	--	2.88	--	--	--
25...	--	--	--	--	--	1900	--	2.58	--	--	--
MAR											
03...	210	570	330	.6	17	1590	1580	2.16	.47	440	30
10...	--	--	--	--	--	1580	--	2.15	--	--	--
17...	--	--	--	--	--	1510	--	2.05	--	--	--
24...	--	--	--	--	--	1680	--	2.28	--	--	--
31...	--	--	--	--	--	1340	--	1.82	--	--	--
APR											
07...	220	620	380	.4	16	1350	1740	1.84	2.4	420	90
14...	--	--	--	--	--	1530	--	2.08	--	--	--
21...	--	--	--	--	--	1100	--	1.50	--	--	--
28...	--	--	--	--	--	1380	--	1.88	--	--	--
MAY											
05...	220	490	180	.5	18	1180	1210	1.65	.41	250	10
12...	--	--	--	--	--	1490	--	2.03	--	--	--
19...	--	--	--	--	--	1540	--	2.09	--	--	--
27...	--	--	--	--	--	1710	--	2.33	--	--	--
JUN											
02...	230	700	430	.7	19	1840	1920	2.50	.26	420	30
09...	--	--	--	--	--	1800	--	2.45	--	--	--
16...	--	--	--	--	--	1470	--	2.00	--	--	--
23...	--	--	--	--	--	1600	--	2.18	--	--	--
30...	--	--	--	--	--	1640	--	2.23	--	--	--
JUL											
07...	200	530	250	.7	12	1340	1340	1.82	.51	260	10
14...	--	--	--	--	--	1880	--	2.56	--	--	--
21...	--	--	--	--	--	1480	--	2.01	--	--	--
28...	--	--	--	--	--	1620	--	2.20	--	--	--
AUG											
04...	220	660	380	.6	13	1600	1750	2.38	.47	370	30
11...	--	--	--	--	--	1460	--	1.99	--	--	--
18...	--	--	--	--	--	1570	--	2.14	--	--	--
25...	--	--	--	--	--	1420	--	1.93	--	--	--
SEP											
02...	210	510	280	.6	16	1380	1400	1.88	.67	320	40
08...	--	--	--	--	--	1540	--	2.09	--	--	--
15...	--	--	--	--	--	1410	--	1.92	--	--	--
22...	--	--	--	--	--	1310	--	1.78	--	--	--
29...	--	--	--	--	--	1500	--	2.04	--	--	--

09429130 PALO VERDE IRRIGATION DISTRICT OLIVE LAKE DRAIN NEAR BLYTHE, CA

LOCATION.--Lat 33°40'36", long 114°32'09", in SW¼SW¼ sec.1, T.6 S., R.23 E., San Bernardino meridian, Riverside County, Hydrologic Unit 15030104, 0.3 mi (0.5 km) upstream from mouth, and 5 mi (8 km) northeast of Blythe.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	1135	12	1510	7.8	23.0	480	260	130	38	140	2.8	7.0
NOV												
01...	1140	9.0	1380	7.9	17.0	420	230	110	35	130	2.8	6.4
DEC												
03...	1130	13	1280	7.8	13.5	380	210	98	32	130	2.9	5.8
JAN												
02...	1715	3.5	1620	7.9	15.5	520	290	140	41	150	2.9	7.0
FEB												
01...	1200	6.0	1450	7.8	12.0	380	170	89	38	140	3.1	5.6
MAR												
04...	1140	2.0	1230	7.8	15.5	350	200	86	33	120	2.8	5.5
APR												
01...	1115	3.0	1740	7.4	15.0	550	290	150	43	170	3.2	6.6
MAY												
05...	1500	10	1620	7.9	15.0	520	280	140	41	170	3.3	6.0
JUN												
03...	1100	3.0	1630	7.6	22.0	500	250	130	43	160	3.1	6.4
AUG												
04...	0945	10	1630	8.0	23.5	520	270	140	42	150	2.9	7.6
SEP												
03...	1130	13	1650	7.6	25.0	490	340	130	41	150	2.9	7.5

09429130 PALO VERDE IRRIGATION DISTRICT OLIVE LAKE DRAIN NEAR BLYTHE, CA--Continued

PERIOD OF RECORD.--October 1968 to September 1970 (partial-record station), October 1970 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
01...	220	410	130	.4	16	1050	1010	1.43	.27	200	<10
NOV											
01...	190	350	110	.4	14	925	871	1.26	.16	180	<10
DEC											
03...	170	350	110	.4	11	885	840	1.20	.16	160	<10
JAN											
02...	230	430	130	.4	18	1110	1060	1.51	.29	200	<10
FEB											
01...	210	380	110	.3	11	--	902	1.23	.30	180	<10
MAR											
04...	150	320	110	.4	8.3	--	774	1.05	.08	150	40
APR											
01...	260	440	150	.4	19	--	1140	1.55	.10	220	60
MAY											
05...	240	420	140	.4	18	--	1080	1.47	.28	180	30
JUN											
03...	250	390	130	.4	16	1120	1030	1.52	.28	170	<10
AUG											
04...	250	440	140	.5	16	--	1090	1.48	.19	200	<10
SEP											
03...	150	430	150	.5	18	1250	1020	1.70	.20	240	<10

< Actual value is known to be less than value shown.

COLORADO RIVER MAIN STEM

09429188 COLORADO RIVER AT TAYLOR FERRY, NEAR BLYTHE, CA

LOCATION.--Lat 33°26'03", long 114°37'35", in SE¼ sec.36, T.8 S., R.22 E., San Bernardino meridian, Riverside County, Hydrologic Unit 15030104, at gaging station, at site of old Taylor Ferry, 2.5 mi (4.0 km) upstream from Cibola Bridge, 12 mi (19 km) south of Blythe, Calif., 28 mi (45 km) downstream from Palo Verde Dam, and 62 mi (100 km) upstream from Imperial Dam.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
03...	1220	7500	1170	7.9	24.5	330	200	81	30	110	2.7	5.6
09...	0730	6850	1180	--	22.0	--	--	--	--	--	--	--
15...	1130	6650	976	--	21.0	--	--	--	--	--	--	--
22...	1030	6850	1180	--	18.5	--	--	--	--	--	--	--
29...	1025	5530	1180	--	21.0	--	--	--	--	--	--	--
NOV												
05...	0740	5750	1160	7.9	17.0	330	200	79	31	120	2.9	5.8
13...	1100	4160	1490	--	17.0	--	--	--	--	--	--	--
19...	0910	5520	1160	--	15.5	--	--	--	--	--	--	--
26...	1125	4330	1210	--	13.5	--	--	--	--	--	--	--
DEC												
03...	0900	4840	1140	7.7	14.0	340	200	85	32	130	3.1	5.5
10...	0850	4690	1210	--	13.5	--	--	--	--	--	--	--
17...	0900	6910	1020	--	15.0	--	--	--	--	--	--	--
31...	0810	3530	1210	--	11.0	--	--	--	--	--	--	--
JAN												
07...	0800	4680	1190	7.8	10.5	340	200	85	31	120	2.8	5.3
14...	1240	3640	1290	--	13.5	--	--	--	--	--	--	--
21...	0100	3730	1220	--	13.0	--	--	--	--	--	--	--
28...	1135	6530	1200	--	15.0	--	--	--	--	--	--	--
FEB												
04...	0100	4830	1290	8.0	15.5	360	220	89	33	130	3.0	5.5
11...	0805	6390	1200	--	13.5	--	--	--	--	--	--	--
19...	0120	3230	1250	--	15.0	--	--	--	--	--	--	--
25...	1240	4390	1230	--	16.5	--	--	--	--	--	--	--
MAR												
03...	0845	11700	1010	8.0	15.0	310	190	79	27	95	2.4	5.6
10...	1210	14800	992	--	15.5	--	--	--	--	--	--	--
17...	1015	14900	963	--	14.5	--	--	--	--	--	--	--
24...	0910	8350	1050	--	15.5	--	--	--	--	--	--	--
31...	1200	16700	1040	--	16.5	--	--	--	--	--	--	--
APR												
07...	1420	16300	1130	7.9	17.0	--	--	--	--	--	--	--
14...	1240	16700	1180	--	20.5	--	--	--	--	--	--	--
21...	1240	16300	1150	--	21.0	--	--	--	--	--	--	--
28...	0810	16100	1120	--	20.0	--	--	--	--	--	--	--
MAY												
05...	0755	10200	1130	7.7	21.0	320	190	80	29	110	2.7	5.1
12...	0745	14600	1140	--	20.5	--	--	--	--	--	--	--
19...	0750	13600	1120	--	21.0	--	--	--	--	--	--	--
27...	1030	12600	1190	--	21.0	--	--	--	--	--	--	--
JUN												
02...	0820	12900	1170	8.0	21.0	510	370	130	46	190	3.6	6.3
09...	0800	17600	1160	--	23.5	--	--	--	--	--	--	--
16...	0800	14900	1170	--	25.5	--	--	--	--	--	--	--
23...	0745	18200	1180	--	--	--	--	--	--	--	--	--
30...	0745	19100	1160	--	--	--	--	--	--	--	--	--
JUL												
07...	0800	16100	1160	7.9	24.5	340	200	83	31	110	2.6	5.7
14...	0745	16200	1120	--	28.0	--	--	--	--	--	--	--
21...	0750	15000	1130	--	30.0	--	--	--	--	--	--	--
28...	0815	15500	1120	--	--	--	--	--	--	--	--	--
AUG												
04...	0800	12800	1130	7.8	24.5	340	210	84	31	110	2.6	5.2
11...	0830	15500	1140	--	--	--	--	--	--	--	--	--
18...	0810	16100	1170	--	--	--	--	--	--	--	--	--
25...	0810	19400	1100	--	--	--	--	--	--	--	--	--
SEP												
02...	0815	13200	1160	7.7	25.5	340	210	86	30	110	2.6	6.6
08...	0800	11600	1200	--	--	--	--	--	--	--	--	--
15...	0800	11000	1180	--	--	--	--	--	--	--	--	--
22...	0750	12100	1120	--	--	--	--	--	--	--	--	--
29...	1400	13400	1140	--	--	--	--	--	--	--	--	--

COLORADO RIVER MAIN STEM

09429188 COLORADO RIVER AT TAYLOR FERRY, NEAR BLYTHE, CA--Continued

DRAINAGE AREA.--187,700 mi² (486,100 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of Missouri River basin).

PERIOD OF RECORD.--April 1970 to current year.

REMARKS.--Gaging station operated by, and water samples collected by, U.S. Water and Power Resources Service.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
03...	130	310	100	.4	8.5	754	725	1.03	.20	160	<10
09...	--	--	--	--	--	844	--	1.15	--	--	--
15...	--	--	--	--	--	624	--	.85	--	--	--
22...	--	--	--	--	--	720	--	.98	--	--	--
29...	--	--	--	--	--	774	--	1.05	--	--	--
NOV											
05...	130	310	110	.4	10	750	745	1.01	.20	160	<10
13...	--	--	--	--	--	970	--	1.32	--	--	--
19...	--	--	--	--	--	754	--	1.03	--	--	--
26...	--	--	--	--	--	812	--	1.10	--	--	--
DEC											
03...	140	320	120	.4	9.8	752	788	1.02	.30	150	<10
10...	--	--	--	--	--	764	--	1.04	--	--	--
17...	--	--	--	--	--	680	--	.92	--	--	--
31...	--	--	--	--	--	772	--	1.05	--	--	--
JAN											
07...	140	310	100	.4	10	768	747	1.04	.21	160	<10
14...	--	--	--	--	--	728	--	.99	--	--	--
21...	--	--	--	--	--	784	--	1.07	--	--	--
28...	--	--	--	--	--	774	--	1.05	--	--	--
FEB											
04...	140	340	130	.4	9.8	826	824	1.12	.41	170	<10
11...	--	--	--	--	--	760	--	1.03	--	--	--
19...	--	--	--	--	--	810	--	1.10	--	--	--
25...	--	--	--	--	--	800	--	1.09	--	--	--
MAR											
03...	120	260	95	.4	9.7	704	646	.96	.34	170	20
10...	--	--	--	--	--	644	--	.88	--	--	--
17...	--	--	--	--	--	596	--	.81	--	--	--
24...	--	--	--	--	--	662	--	.90	--	--	--
31...	--	--	--	--	--	676	--	.92	--	--	--
APR											
07...	--	--	--	--	--	736	--	1.00	--	--	--
14...	--	--	--	--	--	768	--	1.04	--	--	--
21...	--	--	--	--	--	740	--	1.01	--	--	--
28...	--	--	--	--	--	728	--	.99	--	--	--
MAY											
05...	130	300	100	.4	8.7	748	713	1.02	.27	160	20
12...	--	--	--	--	--	692	--	.94	--	--	--
19...	--	--	--	--	--	722	--	.98	--	--	--
27...	--	--	--	--	--	766	--	1.04	--	--	--
JUN											
02...	140	510	180	.6	17	762	1170	1.04	.16	250	<10
09...	--	--	--	--	--	716	--	.97	--	--	--
16...	--	--	--	--	--	754	--	1.03	--	--	--
23...	--	--	--	--	--	762	--	1.04	--	--	--
30...	--	--	--	--	--	750	--	1.02	--	--	--
JUL											
07...	140	310	98	.6	9.3	748	733	1.02	.26	140	<10
14...	--	--	--	--	--	734	--	1.00	--	--	--
21...	--	--	--	--	--	710	--	.97	--	--	--
28...	--	--	--	--	--	748	--	1.02	--	--	--
AUG											
04...	130	310	110	.4	9.9	730	739	.99	.13	150	<10
11...	--	--	--	--	--	740	--	1.01	--	--	--
18...	--	--	--	--	--	772	--	1.05	--	--	--
25...	--	--	--	--	--	700	--	.95	--	--	--
SEP											
02...	130	300	110	.4	8.7	738	733	1.00	.77	180	<10
08...	--	--	--	--	--	790	--	1.07	--	--	--
15...	--	--	--	--	--	766	--	1.04	--	--	--
22...	--	--	--	--	--	726	--	.99	--	--	--
29...	--	--	--	--	--	768	--	1.04	--	--	--

< Actual value is known to be less than value shown.

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429220 PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CA

LOCATION.--Lat 33°21'41", long 114°43'20", in SE¼SE¼ sec.26, T.9 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030104, at gaging station, at State Highway 78 bridge, 3.3 mi (5.3 km) upstream from mouth, and 5 mi (8 km) south of Palo Verde.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0930	630	2450	7.7	24.5	520	300	130	48	360	6.9	7.2
09...	0935	572	2600	--	24.0	--	--	--	--	--	--	--
15...	0120	583	2220	--	23.5	--	--	--	--	--	--	--
23...	1020	616	2240	--	20.0	--	--	--	--	--	--	--
29...	1045	526	2490	--	20.5	--	--	--	--	--	--	--
NOV												
05...	1005	520	2600	7.9	18.5	560	280	140	51	380	7.0	8.9
13...	1000	616	2440	--	19.5	--	--	--	--	--	--	--
19...	1115	585	2320	--	18.0	--	--	--	--	--	--	--
26...	1105	640	2230	--	14.5	--	--	--	--	--	--	--
DEC												
10...	1050	448	2510	--	17.0	--	--	--	--	--	--	--
17...	0235	614	2360	--	15.0	--	--	--	--	--	--	--
31...	1130	628	2190	--	15.5	--	--	--	--	--	--	--
JAN												
07...	1000	376	3020	7.8	15.5	580	310	150	50	440	7.9	6.9
14...	0240	438	2880	--	16.0	--	--	--	--	--	--	--
21...	0240	448	2630	--	15.0	--	--	--	--	--	--	--
28...	0235	475	2520	--	15.5	--	--	--	--	--	--	--
FEB												
04...	1450	444	2660	7.9	18.0	550	290	140	48	410	7.6	6.7
11...	0950	444	2440	--	15.0	--	--	--	--	--	--	--
19...	0300	424	2590	--	18.0	--	--	--	--	--	--	--
25...	0230	478	2550	--	18.5	--	--	--	--	--	--	--
MAR												
03...	1315	434	2400	7.9	19.5	500	280	130	43	300	5.8	7.3
10...	1430	510	2230	--	18.5	--	--	--	--	--	--	--
17...	0850	448	2690	--	16.5	--	--	--	--	--	--	--
24...	1040	482	2530	--	18.0	--	--	--	--	--	--	--
31...	1355	541	2500	--	19.0	--	--	--	--	--	--	--
APR												
07...	1600	571	2400	7.8	21.5	530	290	140	44	320	6.0	6.8
14...	1430	621	2390	--	25.5	--	--	--	--	--	--	--
21...	1430	574	2610	--	22.0	--	--	--	--	--	--	--
28...	1025	631	2450	--	21.0	--	--	--	--	--	--	--
MAY												
05...	1000	583	2520	7.7	22.0	460	260	120	39	310	6.3	6.1
12...	0945	583	2280	--	21.0	--	--	--	--	--	--	--
19...	1020	574	2530	--	23.5	--	--	--	--	--	--	--
27...	1015	569	2550	--	21.0	--	--	--	--	--	--	--
JUN												
02...	1040	528	2740	8.0	22.0	540	290	140	45	390	7.3	7.1
09...	1030	569	2510	--	25.5	--	--	--	--	--	--	--
16...	1020	574	2660	--	26.5	--	--	--	--	--	--	--
23...	0555	601	2500	--	24.5	--	--	--	--	--	--	--
30...	0945	621	2730	--	25.5	--	--	--	--	--	--	--
JUL												
07...	1000	592	2740	7.9	25.5	540	280	140	45	390	7.3	18
14...	1100	616	2760	--	29.0	--	--	--	--	--	--	--
21...	1045	685	2560	--	30.0	--	--	--	--	--	--	--
28...	1015	645	2750	--	--	--	--	--	--	--	--	--
AUG												
04...	1020	710	2530	7.8	24.5	540	290	140	45	380	7.2	6.8
11...	1050	759	2430	--	--	--	--	--	--	--	--	--
18...	1030	769	2440	--	--	--	--	--	--	--	--	--
25...	1015	799	2410	--	--	--	--	--	--	--	--	--
SEP												
02...	1020	769	2590	7.9	25.0	500	250	130	42	380	7.4	8.3
08...	1040	749	2630	--	--	--	--	--	--	--	--	--
15...	1020	789	2420	--	--	--	--	--	--	--	--	--
22...	1025	830	2380	--	--	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429220 PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CA--Continued

PERIOD OF RECORD.--October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)
OCT											
01...	220	560	340	1.1	19	1570	1600	2.14	.32	510	<10
09...	--	--	--	--	--	1680	--	2.28	--	--	--
15...	--	--	--	--	--	1420	--	1.93	--	--	--
23...	--	--	--	--	--	1440	--	1.96	--	--	--
29...	--	--	--	--	--	1620	--	2.20	--	--	--
NOV											
05...	280	560	370	1.1	22	1700	1710	2.31	1.5	520	<10
13...	--	--	--	--	--	1586	--	2.16	--	--	--
19...	--	--	--	--	--	1560	--	2.12	--	--	--
26...	--	--	--	--	--	1450	--	1.97	--	--	--
DEC											
10...	--	--	--	--	--	1630	--	2.22	--	--	--
17...	--	--	--	--	--	1460	--	1.99	--	--	--
31...	--	--	--	--	--	1420	--	1.93	--	--	--
JAN											
07...	270	640	420	1.4	26	1950	1900	2.65	.55	670	30
14...	--	--	--	--	--	1760	--	2.39	--	--	--
21...	--	--	--	--	--	1770	--	2.41	--	--	--
28...	--	--	--	--	--	1610	--	2.19	--	--	--
FEB											
04...	260	590	400	1.2	27	1700	1780	2.31	.65	580	30
11...	--	--	--	--	--	1560	--	2.12	--	--	--
19...	--	--	--	--	--	1660	--	2.26	--	--	--
25...	--	--	--	--	--	1760	--	2.39	--	--	--
MAR											
03...	220	510	330	1.0	18	1540	1480	2.09	.84	460	20
10...	--	--	--	--	--	1440	--	1.96	--	--	--
17...	--	--	--	--	--	1730	--	2.35	--	--	--
24...	--	--	--	--	--	1680	--	2.28	--	--	--
31...	--	--	--	--	--	1610	--	2.19	--	--	--
APR											
07...	240	520	320	1.1	23	1538	1520	2.09	.63	510	50
14...	--	--	--	--	--	1520	--	2.07	--	--	--
21...	--	--	--	--	--	1660	--	2.26	--	--	--
28...	--	--	--	--	--	1590	--	2.16	--	--	--
MAY											
05...	200	510	360	1.1	20	1650	1490	2.03	.53	530	30
12...	--	--	--	--	--	1470	--	2.00	--	--	--
19...	--	--	--	--	--	1640	--	2.23	--	--	--
27...	--	--	--	--	--	1650	--	2.24	--	--	--
JUN											
02...	250	600	400	1.2	--	1760	1190	1.62	.49	580	20
09...	--	--	--	--	--	1630	--	2.22	--	--	--
16...	--	--	--	--	--	1720	--	2.34	--	--	--
23...	--	--	--	--	--	1620	--	2.20	--	--	--
30...	--	--	--	--	--	1750	--	2.38	--	--	--
JUL											
07...	260	590	380	1.3	15	1770	1740	2.41	.64	570	20
14...	--	--	--	--	--	1810	--	2.46	--	--	--
21...	--	--	--	--	--	1690	--	2.30	--	--	--
28...	--	--	--	--	--	1800	--	2.45	--	--	--
AUG											
04...	250	560	370	1.0	13	1620	1670	2.20	.56	540	30
11...	--	--	--	--	--	1580	--	2.15	--	--	--
18...	--	--	--	--	--	1600	--	2.18	--	--	--
25...	--	--	--	--	--	1560	--	2.12	--	--	--
SEP											
02...	250	550	380	1.2	19	1690	1660	2.30	.62	530	60
08...	--	--	--	--	--	1790	--	2.43	--	--	--
15...	--	--	--	--	--	1540	--	2.09	--	--	--
22...	--	--	--	--	--	1590	--	2.16	--	--	--

< Actual value is known to be less than value shown.

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429225 PALO VERDE IRRIGATION DISTRICT ANDERSON DRAIN NEAR PALO VERDE, CA

LOCATION.--Lat 33°21'19", long 114°43'00", in SW¼ sec.36, T.9 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030104, 0.1 mi (0.2 km) upstream from pump into Outfall drain, and 5.5 mi (8.8 km) south of Palo Verde.

PERIOD OF RECORD.--Water year 1969 (partial-record station), October 1969 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1966-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0920	.00	--	--	--	--	--	--	--	--	--	--
NOV												
01...	1000	.00	--	--	--	--	--	--	--	--	--	--
DEC												
03...	0945	.00	--	--	--	--	--	--	--	--	--	--
JAN												
02...	0945	.00	--	--	--	--	--	--	--	--	--	--
FEB												
26...	1430	1.5	2270	8.0	20.0	290	0	65	31	450	12	3.9
MAR												
16...	1200	7.0	2350	7.8	18.0	290	0	66	30	400	10	4.0
APR												
21...	1050	1.1	2810	8.1	16.0	400	10	86	45	480	10	9.6
MAY												
27...	1500	7.0	--	--	20.0	270	0	63	27	420	11	4.3
JUN												
24...	1300	1.1	2250	7.9	21.0	270	0	59	30	400	11	4.5
JUL												
29...	1015	1.1	2470	7.8	24.0	350	0	79	37	440	10	5.3
AUG												
12...	1330	.97	2810	8.0	25.5	550	110	130	54	460	8.6	8.6
SEP												
04...	0920	1.1	2620	7.9	23.0	250	0	57	27	420	11	5.1
28...	1000	1.1	--	--	20.0	350	0	78	37	460	11	6.6

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
NOV											
01...	--	--	--	--	--	--	--	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
JAN											
02...	--	--	--	--	--	--	--	--	--	--	--
FEB											
26...	380	510	220	1.2	31	--	1540	2.09	.18	660	690
MAR											
16...	380	500	220	1.1	24	--	1470	2.00	.08	650	190
APR											
21...	390	480	270	1.0	24	--	1630	2.22	.34	670	90
MAY											
27...	360	500	210	1.1	24	1470	1470	2.00	.16	620	140
JUN											
24...	370	500	210	.9	24	1490	1450	2.03	.07	610	190
JUL											
29...	400	540	230	1.0	19	1600	1590	2.18	.01	630	50
AUG											
12...	440	670	300	1.0	20	--	1910	2.60	.11	720	120
SEP											
04...	370	510	220	1.2	18	1480	1480	2.01	.03	650	180
28...	400	590	260	1.2	19	1720	1690	2.34	.13	730	110

09429280. CIBOLA LAKE INLET NEAR CIBOLA, AZ.
LOCATION.--Lat 33°15'11", long 114°40'05", in SW¼NE¼ sec.18, T.2 S., R.23 W., Yuma County, Hydrologic Unit 15030104, in Cibola National Wildlife Refuge, below levee on left bank Colorado River at north end of Cibola Lake, 4.4 mi (7.1 km) south of Cibola.

PERIOD OF RECORD.--December 1974 to current year (monthly discharge only).

GAGE.--Two water-stage recorders; one records stage and the other records deflection-meter readings from deflection vane located in concrete flume. Altitude of gage is 205 ft (62.5 m) U.S. Bureau of Reclamation construction data.

REMARKS.--Records fair. Record shows amount of water diverted from Colorado River to Cibola Lake. Daily records are available Nov. 21, 1974 to current year.

09429290. CIBOLA LAKE OUTLET NEAR CIBOLA, AZ.
LOCATION.--Lat 33°13'19", long 114°40'16", in NW¼SE¼ sec.30, T.2 S., R.23 W., Yuma County, Hydrologic Unit 15030104, in Cibola National Wildlife Refuge, at south end of Cibola Lake outlet to Colorado River, 6.5 mi (10.5 km) south of Cibola.

PERIOD OF RECORD.--December 1974 to current year (monthly discharge only).

GAGE.--Water-stage recorder and cipolletti weir or stop logs in 6-ft (1.8-m) concrete flume. Altitude of gage is 204 ft (62.2 m) U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation) construction data.

REMARKS.--Records poor. Record shows amount of water returned to Colorado River through controlled outlet. Leakage of about 1 ft^3/s (0.028 m^3/s) through adjustable weir or stop logs, or reverse flow of about 1 ft^3/s (0.028 m^3/s) through flap gates are not included in record. In water years 1976, 1977, and 1979 part of the return flow included in the record was from local runoff. Daily records are available Nov. 21, 1974 to current year.

MONTHLY DISCHARGE, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Cibola Lake Inlet 09429280	Cibola Lake Outlet 09429290
October	0	0
November	540	0
December	709	0
CAL YR 1979	5,280	a658
January	907	0
February	317	0
March	1,890	0
April	1,220	97
May	226	0
June	454	0
July	453	0
August	398	0
September	210	95
WTR YR 1980	7,320	192

a Includes 278 acre-feet of local inflow.

09429300 COLORADO RIVER BELOW CIBOLA VALLEY, AZ

LOCATION.--Lat 33°13'16", long 114°40'18", in NE¼SW¼ sec.30, T.2 S., R.23 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030104, on left bank 6.7 mi (10.8 km) south of Cibola, 38 mi (61 km) upstream from Imperial Dam, 39.7 mi (63.9 km) downstream from Ehrenberg, Ariz., 52.1 mi (83.8 km) downstream from Palo Verde diversion dam near Blythe, Calif., and at mile 620 (998 km) on Colorado River Profile Survey map.

DRAINAGE AREA.--187,800 mi^2 (486,400 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 200.00 ft (60.960 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Flow regulated by Lakes Mead, Mohave, and Havasu. Many diversions above station for irrigation, municipal, and industrial uses. See sta 09429000 for return flows from Palo Verde Irrigation District, which enter between sta 09429010 and this station. A portion of the return flows from Colorado River Indian Reservation also enters between these two stations.

AVERAGE DISCHARGE.--24 years, 8,888 ft^3/s (251.7 m^3/s), 6,439,000 acre-ft/yr (7,940 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,800 ft^3/s (617 m^3/s) Apr. 8, 1958; maximum gage height, 13.60 ft (4.145 m) May 6, 1958; minimum daily discharge, 1,900 ft^3/s (53.8 m^3/s) Jan. 18, 1974; minimum gage height, about 4.1 ft (1.25 m), Jan. 18, 1974, based on minimum observed gage height of 4.25 ft (1.295 m) Jan. 14, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,100 ft^3/s (541 m^3/s) June 25, 26, and 30, gage height, 12.31 ft (3.752 m); minimum daily, 3,300 ft^3/s (93.5 m^3/s) Dec. 24, Feb. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10100	6630	5680	5770	5340	9460	15500	13600	14200	18700	15300	16200
2	10400	6420	5070	6140	4630	12400	15600	12400	14600	17400	15000	16000
3	9420	6050	5910	5570	5790	12400	15200	12600	14800	16700	15000	16500
4	9040	6560	5710	5440	5830	11100	14600	13400	14800	17100	15100	16500
5	8670	6890	5910	4240	5690	11100	14900	13800	14200	17300	15700	15800
6	8640	6890	5610	4630	6460	11900	15600	13600	13200	17200	16400	14700
7	8760	6710	5360	4920	6310	13600	16000	12800	14100	17200	16400	14400
8	8990	5730	5630	6060	5610	12400	16300	12700	17300	17300	16400	14500
9	8640	5870	6480	5460	5240	14700	16100	13700	17900	18500	16300	14400
10	8410	5760	6600	5150	6760	14600	15600	14900	17400	18500	16300	14400
11	8130	5870	6430	4040	8410	15200	14500	15500	11700	17900	16400	14300
12	7590	6390	5950	3530	8200	12100	13800	15600	15500	17400	16500	14100
13	7310	6100	5670	3730	8570	13700	16000	15500	15200	18100	16500	14200
14	8270	5840	5090	3540	8670	13600	16900	14100	14700	18300	16600	14300
15	8600	5560	5070	3770	5400	14400	17100	13800	16200	18300	16600	14000
16	8670	5510	5870	3870	4220	16100	17100	12300	16600	18200	16700	14300
17	6630	5430	6200	3880	3990	16300	17400	12400	16800	18200	16800	14500
18	7020	6470	6390	4010	4490	16500	17700	14200	17200	18200	16900	14500
19	6630	6830	6290	3870	4470	16600	17800	15000	17000	18100	16800	14400
20	8360	6740	6140	4670	4760	16300	18000	14800	16700	18300	16800	14300
21	8390	6200	5230	5400	4940	14600	18200	15100	17400	18500	16900	14300
22	9040	6280	4320	5530	5690	14800	18300	14800	17900	18300	16900	14500
23	8740	5700	3800	5990	3800	16500	18100	12800	18400	18300	16900	14400
24	6890	5780	3300	6160	3300	17100	17700	13400	18700	17700	17000	14300
25	6910	5920	5970	5870	5650	16900	16400	14400	19000	16900	17800	13700
26	6800	6180	5910	6290	5770	16600	16300	15000	19000	16800	18100	13700
27	6630	6140	5690	7500	7340	16900	17200	14500	18800	16700	16900	13700
28	7390	5950	5360	7910	9270	15300	17100	14000	18900	16600	16300	13800
29	7570	5510	4350	7710	8560	15200	16500	13700	19000	16600	16200	14000
30	7330	5970	4530	7840	---	15200	16100	13100	19000	16600	16000	14000
31	6780	---	4620	5060	---	15500	---	13200	---	15600	16100	---
TOTAL	250750	183880	170140	163550	173160	449060	493600	430700	496200	545500	509600	436700
MEAN	8089	6129	5488	5276	5971	14490	16450	13890	16540	17600	16440	14560
MAX	10400	6890	6600	7910	9270	17100	18300	15600	19000	18700	18100	16500
MIN	6630	5430	3300	3530	3300	9460	13800	12300	11700	15600	15000	13700
AC-FT	497400	364700	337500	324400	343500	890700	979100	854300	984200	1082000	1011000	866200

CAL YR 1979 TOTAL 3126730 MEAN 8566 MAX 14300 MIN 2250 AC-FT 6202000
WTR YR 1980 TOTAL 4302840 MEAN 11760 MAX 19000 MIN 3300 AC-FT 8535000

09429300 COLORADO RIVER BELOW CIBOLA VALLEY, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0845	10600	1190	8.1	24.0	340	210	85	30	130	3.1	5.6
09...	0815	9700	1210	--	22.0	--	--	--	--	--	--	--
15...	1210	8850	1170	--	23.0	--	--	--	--	--	--	--
22...	0845	9860	1220	--	17.0	--	--	--	--	--	--	--
29...	0920	8430	1310	--	21.0	--	--	--	--	--	--	--
NOV												
05...	0840	7840	1250	7.8	16.0	340	200	84	32	130	3.1	6.0
13...	0830	6780	1230	--	16.5	--	--	--	--	--	--	--
19...	1000	7980	1260	--	16.0	--	--	--	--	--	--	--
26...	1010	7220	1200	--	14.0	--	--	--	--	--	--	--
DEC												
05...	0915	3420	1320	7.9	--	360	180	91	33	160	3.7	5.4
10...	0945	7040	1340	--	14.0	--	--	--	--	--	--	--
17...	1320	6690	1360	--	13.5	--	--	--	--	--	--	--
31...	0930	4650	1470	--	11.0	--	--	--	--	--	--	--
JAN												
07...	0915	4950	1440	8.0	10.5	370	210	92	33	160	3.6	5.7
14...	1330	3530	1640	--	13.5	--	--	--	--	--	--	--
21...	1315	5730	1390	--	14.5	--	--	--	--	--	--	--
28...	1315	7660	1330	--	14.0	--	--	--	--	--	--	--
FEB												
04...	1330	6140	1370	8.0	16.5	360	210	91	33	150	3.4	5.6
11...	0900	8870	1260	--	28.5	--	--	--	--	--	--	--
19...	1400	4250	1490	--	16.0	--	--	--	--	--	--	--
25...	0125	5990	136	--	17.0	--	--	--	--	--	--	--
MAR												
03...	1130	12400	1090	8.1	15.5	280	160	70	26	110	2.9	5.8
10...	1310	14500	1050	--	16.5	--	--	--	--	--	--	--
17...	0915	17000	955	--	16.5	--	--	--	--	--	--	--
24...	0945	17300	1100	--	16.5	--	--	--	--	--	--	--
APR												
07...	1515	15900	1190	8.0	20.0	370	240	92	33	110	2.5	5.3
14...	1315	17100	1220	--	22.0	--	--	--	--	--	--	--
21...	1320	19500	1190	--	20.0	--	--	--	--	--	--	--
28...	0930	17900	1150	--	20.0	--	--	--	--	--	--	--
MAY												
05...	0845	14700	1240	7.9	20.0	340	200	86	31	130	3.1	5.6
12...	0945	16600	1200	--	19.5	--	--	--	--	--	--	--
19...	0845	16000	1170	--	21.5	--	--	--	--	--	--	--
27...	0830	15600	1210	--	20.0	--	--	--	--	--	--	--
JUN												
02...	0930	15400	1200	8.0	20.0	360	220	91	31	120	2.8	5.4
09...	0915	18500	1200	--	24.5	--	--	--	--	--	--	--
16...	0915	16800	1220	--	20.0	--	--	--	--	--	--	--
23...	0840	18500	1210	--	--	--	--	--	--	--	--	--
JUL												
07...	0900	17700	1200	7.8	25.5	340	190	84	31	120	2.8	6.2
14...	1000	19100	1150	--	--	--	--	--	--	--	--	--
21...	0905	17600	1170	--	31.0	--	--	--	--	--	--	--
28...	0920	17500	1180	--	--	--	--	--	--	--	--	--
AUG												
04...	0915	16000	1210	7.8	24.5	340	200	84	31	130	3.1	5.4
11...	0920	17500	1200	--	--	--	--	--	--	--	--	--
18...	0915	17700	1240	--	--	--	--	--	--	--	--	--
25...	0900	18500	1190	--	--	--	--	--	--	--	--	--
SEP												
02...	0910	16900	1270	7.9	24.5	330	190	80	31	130	3.1	6.2
08...	0915	15400	1290	--	--	--	--	--	--	--	--	--
15...	0910	15100	1360	--	--	--	--	--	--	--	--	--
22...	0900	15600	1290	--	--	--	--	--	--	--	--	--
29...	1315	14500	1300	--	--	--	--	--	--	--	--	--

09429300 COLORADO RIVER BELOW CIBOLA VALLEY, AZ--Continued

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: March 1956 to December 1966.

INSTRUMENTATION.--Water temperature recorder from March 1956 to December 1966.

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)
OCT											
01...	130	330	110	.4	9.2	766	780	1.06	.24	190	<10
09...	--	--	--	--	--	782	--	1.06	--	--	--
15...	--	--	--	--	--	740	--	1.01	--	--	--
22...	--	--	--	--	--	814	--	1.11	--	--	--
29...	--	--	--	--	--	840	--	1.14	--	--	--
NOV											
05...	140	330	120	.4	11	80	799	1.09	.19	170	<10
13...	--	--	--	--	--	780	--	1.06	--	--	--
19...	--	--	--	--	--	853	--	1.16	--	--	--
26...	--	--	--	--	--	812	--	1.10	--	--	--
DEC											
03...	180	340	130	.5	11	860	880	1.17	.23	190	<10
10...	--	--	--	--	--	862	--	1.17	--	--	--
17...	--	--	--	--	--	884	--	1.20	--	--	--
31...	--	--	--	--	--	964	--	1.31	--	--	--
JAN											
07...	160	350	150	.6	12	930	901	1.26	.23	230	<10
14...	--	--	--	--	--	948	--	1.29	--	--	--
21...	--	--	--	--	--	972	--	1.32	--	--	--
28...	--	--	--	--	--	860	--	1.17	--	--	--
FEB											
04...	150	360	150	.5	10	842	892	1.15	.33	200	<10
11...	--	--	--	--	--	810	--	1.10	--	--	--
19...	--	--	--	--	--	960	--	1.31	--	--	--
25...	--	--	--	--	--	880	--	1.20	--	--	--
MAR											
03...	120	280	100	.4	10	704	676	.96	.34	180	60
10...	--	--	--	--	--	676	--	.92	--	--	--
17...	--	--	--	--	--	624	--	.85	--	--	--
24...	--	--	--	--	--	716	--	.97	--	--	--
APR											
07...	130	310	110	.4	10	778	750	1.06	.30	160	10
14...	--	--	--	--	--	798	--	1.09	--	--	--
21...	--	--	--	--	--	766	--	1.04	--	--	--
28...	--	--	--	--	--	756	--	1.03	--	--	--
MAY											
05...	140	310	120	.4	9.8	806	779	1.10	.36	180	<10
12...	--	--	--	--	--	770	--	1.05	--	--	--
19...	--	--	--	--	--	766	--	1.04	--	--	--
27...	--	--	--	--	--	790	--	1.07	--	--	--
JUN											
02...	140	320	110	.5	9.0	772	772	1.05	.10	170	<10
09...	--	--	--	--	--	789	--	1.07	--	--	--
16...	--	--	--	--	--	790	--	1.07	--	--	--
23...	--	--	--	--	--	744	--	1.01	--	--	--
JUL											
07...	150	320	100	.7	9.5	742	763	1.01	.25	190	<10
14...	--	--	--	--	--	756	--	1.03	--	--	--
21...	--	--	--	--	--	764	--	1.04	--	--	--
28...	--	--	--	--	--	774	--	1.05	--	--	--
AUG											
04...	140	330	120	.4	11	768	797	1.04	.15	220	<10
11...	--	--	--	--	--	768	--	1.04	--	--	--
18...	--	--	--	--	--	846	--	1.15	--	--	--
25...	--	--	--	--	--	778	--	1.06	--	--	--
SEP											
02...	140	310	130	.5	10	820	783	1.12	.15	210	<10
08...	--	--	--	--	--	850	--	1.16	--	--	--
15...	--	--	--	--	--	890	--	1.21	--	--	--
22...	--	--	--	--	--	852	--	1.16	--	--	--
29...	--	--	--	--	--	874	--	1.19	--	--	--

< Actual value is known to be less than value shown.

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA
(National stream-quality accounting network, pesticide, radiochemical, and tritium network station)

LOCATION.--Lat 32°52'59", long 114°27'55", at Imperial Dam. The Arizona end of the dam is in SW¼NW¼ sec.30, T.6 S., R.21 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030104; the California end is in NW¼SW¼ sec.9, T.15 S., R.24 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030104. Imperial Dam is 5 mi (8 km) upstream from Laguna Dam, 15 mi (24 km) northeast of Yuma, Ariz., 90 mi (145 km) downstream from Palo Verde Dam, and 147 mi (237 km) downstream from Parker Dam.

DRAINAGE AREA.--188,500 mi^2 (488,200 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1903-34 (yearly discharge only, published in WSP 1313), July 1934 to current year (monthly discharge only October 1942 to September 1979). Prior to October 1942 published as "near Picacho, Calif." October 1942 to September 1971 published as "at Imperial Dam" (monthly discharge shown as "flow reaching Imperial Dam," listed as supplement to "flow passing Imperial Dam").

GAGE.--None. This record is synthesized from records of several other stations (see REMARKS). July 13, 1934, to Sept. 30, 1942, water-stage recorder at site 14.5 mi (23.3 km) upstream at datum 167.38 ft (51.017 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records show flow of Colorado River reaching Imperial Dam, and are based on combined daily total flow of Colorado River below Imperial Dam (sta 09429500), All-American Canal near Imperial Dam (sta 09523000), Gila Gravity Main Canal at Imperial Dam (sta 09522500), and diversions to Mittry Lake (sta 09522400). Records for 1903-34 and for October 1942 to September 1960 were computed as combined flow of Colorado River at Yuma (sta 09521000) and the canals diverting at Imperial and Laguna Dams, less the flow of Gila River near Dome (sta 09520500); for some of these periods drainage and waste return flows and channel losses between the gaging stations and Imperial Dam were considered, and for other periods they were neglected. Records for October 1960 to September 1979 are based on combined monthly total flow of same stations on which daily flows are currently based. Records for July 1934 to September 1942 show daily discharge of Colorado River at gaging station near Picacho, Calif.

Natural flow of Colorado River at this point affected by transmountain diversions, storage reservoirs, power developments, groundwater withdrawals, and diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas. Diversions to Mittry Lake, which began June 23, 1970, are included in river records in table below. Additional regulation, beginning Jan. 31, 1966, to equalize supplies for downstream water users, is provided by pumped storage in reservoir on Senator Wash, about 2 mi (3 km) upstream from Imperial Dam. Monthend contents of Senator Wash Reservoir—capacity, 13,840 acre-ft (17.1 hm^3)—is given in table below.

COOPERATION.--Records of Sparling meter readings of diversion to Mittry Lake and contents of Senator Wash Reservoir furnished by Bureau of Reclamation.

AVERAGE DISCHARGE.--46 years (water years 1935-80), 10,920 ft^3/s (309.2 m^3/s), 7,912,000 acre-ft/yr (9,760 hm^3/yr).

EXTREMES FOR PERIOD OF 1934-80.--Maximum discharge, 40,800 ft^3/s (1,160 m^3/s) Sept. 5, 1939; minimum, 538 ft^3/s (15.2 m^3/s) Aug. 3, 1934; minimum daily since regulation of Hoover Dam began, 1,450 ft^3/s (41.1 m^3/s) Feb. 17, 1935.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9310	7110	5860	4640	5060	8910	15200	16600	12600	18500	16000	15400
2	9640	7000	5290	6110	5180	9210	15800	15000	13300	18200	15200	15700
3	9630	6630	5450	5950	5030	10700	16000	13300	13800	17600	14800	15700
4	9560	6220	5670	5630	5830	11500	15700	12500	14400	16600	14500	15800
5	9380	6340	5800	5430	5690	11400	14800	12600	14900	15700	14400	16200
6	8770	6610	5880	4680	5850	11100	13700	13200	14200	16000	14600	16200
7	8320	6560	5870	4960	6390	11400	14800	14200	13700	16700	15100	15500
8	8780	6880	5550	5120	6300	12300	15700	14100	12900	16600	15800	14700
9	8720	6020	5320	5100	5600	12900	16200	13700	13700	16600	15700	14300
10	8750	5720	6520	4550	5440	13200	16000	13400	15300	16900	15700	14200
11	8560	5660	6700	4590	6800	13000	16400	13800	16300	17800	16200	14300
12	8190	6160	6550	3360	7540	13600	15700	14200	15200	17900	16000	14300
13	7840	6190	5980	3230	8130	13200	14800	14200	14200	17500	16300	14000
14	7760	6170	5850	3520	7150	13400	15300	14700	14400	17200	16300	13800
15	8010	6100	5080	3700	7190	13200	16400	14300	14100	18200	16200	14100
16	7540	5620	4730	4190	5310	13500	17200	14000	14900	18000	16200	14100
17	7470	5440	6060	4070	4360	14500	17500	13600	15000	18300	16200	14100
18	7240	5450	6250	4110	3970	15600	17600	13100	15700	18000	16500	14200
19	7910	6490	6330	4160	4740	16000	17800	13600	16000	17600	16700	14300
20	7920	6840	6430	3750	5090	16900	17500	14600	16100	18000	16600	14100
21	7700	7020	6070	4800	5720	16900	18300	15400	16300	18100	16800	14500
22	8090	6290	5330	5510	5560	16300	18400	15600	16200	18100	16600	14200
23	8710	6000	4030	5860	5830	16200	18000	15000	16600	18300	16500	14300
24	8690	5790	3290	6180	5570	16100	18000	13900	17100	18300	15700	14400
25	7090	5540	2990	5980	5340	16600	17500	12800	17300	17900	16700	14400
26	7150	6080	6350	5790	5730	16300	16500	13500	17800	17400	17100	14000
27	6820	6140	5890	6030	6230	16000	16000	13800	18000	16400	17700	13800
28	6410	6040	5770	7150	7580	16100	16800	14000	18300	16400	17500	13600
29	7370	5920	5060	7300	8800	16000	17100	14100	18200	16400	16500	13600
30	7320	5740	4460	7310	---	15200	16900	14000	18300	16100	15600	13700
31	7330	---	4760	6950	---	15100	---	13300	---	16100	15600	---
TOTAL	251980	185770	171170	159710	173010	432320	493600	434100	464800	537400	497300	435500
MEAN	8128	6192	5522	5152	5966	13950	16450	14000	15490	17340	16040	14520
MAX	9640	7110	6700	7310	8800	16900	18400	16600	18300	18500	17700	16200
MIN	6410	5440	2990	3230	3970	8910	13700	12500	12600	15700	14400	13600
AC-FT	499800	368500	339500	316800	343200	857500	979100	861000	921900	1066000	986400	863800
(†)	574	447	372	571	306	594	578	652	645	599	523	466
(‡)	8360	7380	8100	9340	4950	13740	13830	8270	6340	5280	6920	6140

CAL YR 1979 TOTAL 3091410 MEAN 8470 MAX 13500 MIN 1790 AC-FT 6132000 † 6090
WTR YR 1980 TOTAL 4236660 MEAN 11580 MAX 18500 MIN 2990 AC-FT 8403000 † 6330

† Diversions, in acre-feet, to Mittry Lake (09522400).
‡ Monthend contents, in acre-feet, in Senator Wash Reservoirs.

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER-QUALITY RECORDS

LOCATION.--Water samples collected above trash racks at All-American Canal headworks at west end of Imperial Dam.

PERIOD OF RECORD.--August 1969 to current year.
Prior to October 1971, published as sta 09429500, Colorado River at Imperial Dam, Ariz.-Calif.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1969 to current year.
WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Replaces water-quality station 09525500 Yuma Main Canal below Colorado River Siphon, at Yuma, Ariz. Stream discharges reported with analyses represent total flow reaching Imperial Dam. Since January 1971, daily specific-conductance measurements have been made using a composite of four water samples taken at 6-hour intervals. Composites of four water samples per day are analyzed for major chemical constituents weekly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW (CFS)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
01...	--	9380	--	1230	8.1	--	--	3.1	--	--	--	--
08...	--	8860	--	1240	8.1	--	--	2.0	--	--	--	--
15...	--	8080	--	1260	8.1	--	--	1.0	--	--	130	1320
22...	--	8580	--	1270	8.1	--	--	2.3	--	--	--	--
29...	--	4260	--	1280	8.0	--	--	1.0	--	--	--	--
NOV												
02...	--	7000	--	--	--	--	--	--	--	--	--	--
05...	--	6010	--	1300	8.1	--	--	--	--	--	--	--
12...	--	--	6010	1310	7.9	--	--	--	--	--	--	--
15...	0915	--	6210	1370	8.0	17.0	15.0	3.7	9.6	83	--	--
19...	--	6380	--	1300	7.8	--	--	--	--	--	--	--
26...	1045	6240	6000	1330	8.0	16.5	14.5	--	--	23	--	--
DEC												
03...	--	5330	--	1340	8.0	--	--	--	--	--	--	--
10...	--	6510	--	1320	8.0	--	--	--	--	--	--	--
13...	0900	--	6550	1310	8.0	12.0	11.0	6.7	10.6	19	43	22
16...	1100	--	7700	1300	8.1	18.0	11.0	--	9.3	19	--	--
17...	--	6010	--	1320	8.0	--	--	--	--	--	--	--
24...	--	2660	--	1440	8.0	--	--	--	--	--	--	--
31...	--	3670	--	1370	7.9	--	--	--	--	--	--	--
JAN												
02...	--	6110	--	--	--	--	--	--	--	--	--	--
07...	--	5000	--	1340	8.0	--	--	--	--	--	--	--
10...	0940	--	4290	1380	7.6	15.5	13.0	5.1	10.5	16	30	27
14...	0830	3480	--	1530	7.8	--	--	--	--	--	--	--
21...	0850	4820	--	1420	7.8	--	--	--	--	--	--	--
22...	1130	--	5590	1410	7.9	15.5	12.0	--	10.1	0	--	--
28...	--	7200	--	1270	7.8	--	--	--	--	--	--	--
FEB												
04...	--	4810	--	1350	8.0	--	--	--	--	--	--	--
11...	--	7000	--	1320	7.9	--	--	--	--	--	--	--
13...	0930	--	8300	1200	7.8	14.0	13.0	8.6	10.1	11	22	16
18...	--	3990	--	1400	8.1	--	--	--	--	--	--	--
25...	--	5440	--	1340	8.0	--	--	--	--	--	--	--
26...	1100	--	5920	1330	8.1	28.0	16.5	--	--	16	--	--
MAR												
03...	--	10800	--	1070	7.9	--	--	--	--	--	--	--
10...	--	13200	--	1120	8.0	--	--	--	--	--	--	--
12...	0940	--	13600	1150	7.5	16.5	15.5	19	8.8	23	53	140
17...	--	14700	--	1080	8.0	--	--	--	--	--	--	--
24...	--	16200	--	1130	8.1	--	--	--	--	--	--	--
25...	1030	--	16800	1150	8.1	16.0	16.0	--	8.0	15	--	--
31...	--	15200	--	1120	8.0	--	--	--	--	--	--	--
APR												
01...	--	15200	--	--	--	--	--	--	--	--	--	--
07...	--	14900	--	1170	8.0	--	--	--	--	--	--	-
08...	1000	--	16000	1000	8.0	25.5	20.5	2.4	--	14	14	57
14...	--	15400	--	1200	8.0	--	--	--	--	--	--	--
21...	--	18400	--	1210	7.9	--	--	--	--	--	--	--
22...	1140	--	18400	1200	7.9	--	20.0	--	--	9	--	--
28...	--	16700	--	1210	8.0	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

COOPERATION.--Daily water temperature record furnished by, and water samples collected by, U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 1,970 micromhos Aug. 23, 1977; minimum observed, 939 micromhos Sept. 26, 1976.
WATER TEMPERATURES: Maximum observed, 33.0°C Aug. 20, 1977; minimum observed, 9.0°C Dec. 26, 1974, Jan. 4, 1976, Jan. 3, 4, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 1,530 micromhos Jan. 14; minimum observed, 1,050 micromhos Mar. 16.
WATER TEMPERATURES: Maximum observed, 31.5°C July 28, 29, Aug. 10-13; minimum observed, 12.0°C Dec. 15, 16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT											
01...	330	180	82	30	140	3.4	4.0	148	310	120	.6
08...	340	190	85	30	140	3.3	1.0	148	300	120	.4
15...	330	180	82	30	140	3.4	4.0	148	310	120	.1
22...	340	190	84	32	140	3.3	4.0	148	320	120	.4
29...	340	200	87	30	140	3.3	4.0	148	300	130	.3
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
05...	361	212	92	32	141	3.2	5.2	149	338	129	.4
12...	376	228	98	32	141	3.2	5.2	148	340	129	.7
15...	360	210	90	33	140	3.2	5.4	150	360	130	.4
19...	374	232	92	35	144	3.2	5.2	143	338	126	.4
26...	381	236	95	35	144	3.2	5.2	146	350	130	.6
DEC											
03...	401	250	98	38	138	3.0	5.3	151	350	136	.6
10...	394	250	92	40	132	2.9	4.5	144	345	136	.4
13...	350	210	88	32	140	3.3	5.5	140	330	120	.4
16...	--	--	--	--	--	--	--	--	--	--	--
17...	365	212	92	33	148	3.4	5.0	153	338	130	.3
24...	394	228	100	35	156	3.4	5.5	166	360	144	.4
31...	364	205	98	29	152	3.5	5.8	159	345	130	.3
JAN											
02...	--	--	--	--	--	--	--	--	--	--	--
07...	350	196	94	28	153	3.6	5.8	154	328	138	.2
10...	350	200	88	32	150	3.5	5.5	150	320	140	.5
14...	382	222	92	37	156	3.5	5.8	161	320	162	.5
21...	369	215	90	35	158	3.6	5.0	154	335	150	.3
22...	--	--	--	--	--	--	--	--	--	--	--
28...	344	206	80	35	138	3.2	4.9	138	318	120	.5
FEB											
04...	370	217	92	34	145	3.3	4.5	153	325	135	.6
11...	354	212	89	32	138	3.2	4.5	143	315	125	.7
13...	350	210	86	32	130	3.0	5.0	140	320	110	.3
18...	346	204	96	26	168	3.9	4.8	143	335	154	.4
25...	360	212	90	33	133	3.0	4.5	148	300	131	.7
26...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	285	154	68	28	114	2.9	3.8	131	250	98	.4
10...	302	172	75	28	116	2.9	5.0	131	270	98	.5
12...	330	200	82	30	110	2.6	6.3	130	280	100	.5
17...	294	170	75	26	108	2.7	4.8	125	255	95	.6
24...	307	170	80	26	120	3.0	3.8	138	278	101	.4
25...	--	--	--	--	--	--	--	--	--	--	--
31...	299	160	77	26	118	3.0	5.4	138	267	100	.4
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	318	176	78	30	120	2.9	5.5	143	278	101	.6
08...	320	180	82	29	110	2.7	5.1	140	290	95	.4
14...	351	187	88	32	120	2.8	5.2	164	288	102	.8
21...	354	210	89	32	128	3.0	5.0	144	317	120	.5
22...	--	--	--	--	--	--	--	--	--	--	--
28...	347	203	88	31	128	3.0	4.4	144	310	110	.4

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
01...	10	804	784	1.09	--	--	.14	--	--	--	--
08...	12	--	768	1.04	--	--	.11	--	--	--	--
15...	10	800	790	1.09	--	--	.18	--	--	--	--
22...	11	800	800	1.09	--	--	.14	--	--	--	--
29...	12	812	787	1.10	--	--	.14	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
05...	12	790	840	1.07	--	--	.16	--	--	--	--
12...	12	872	848	1.10	--	--	.14	--	--	--	--
15...	10	859	860	1.17	--	--	--	--	--	--	--
19...	11	804	838	1.09	--	--	.18	--	--	.18	.100
26...	13	874	861	1.19	5	.13	.09	.020	.010	--	--
DEC										.18	.020
03...	11	870	868	1.18	--	--	.11	--	--	--	--
10...	12	856	850	1.16	--	--	.14	--	--	--	--
13...	12	856	813	1.16	--	--	--	--	--	.14	.020
16...	--	--	--	--	13	.15	.11	.000	.000	.11	.010
17...	13	858	852	1.17	--	--	.11	--	--	--	--
24...	12	920	913	1.25	--	--	.11	--	--	--	--
31...	13	774	870	1.05	--	--	.20	--	--	--	--
JAN											
02...	--	--	--	--	--	--	--	--	--	--	--
07...	14	864	855	1.18	--	--	.14	--	--	--	--
10...	11	872	838	1.19	--	--	--	--	--	.17	.040
14...	13	918	884	1.25	--	--	.23	--	--	--	--
21...	13	892	880	1.21	--	--	.18	--	--	--	--
22...	--	--	--	--	14	.11	.14	.000	.000	.14	.010
28...	11	800	791	1.09	--	--	.16	--	--	--	--
FEB											
04...	12	--	840	1.14	--	--	--	--	--	--	--
11...	12	--	803	1.09	--	--	--	--	--	--	--
13...	9.2	752	778	1.02	--	--	--	--	--	.19	.140
18...	13	--	884	1.20	--	--	--	--	--	--	--
25...	12	--	794	1.08	--	--	--	--	--	--	--
26...	--	--	--	--	25	.14	.15	.010	.000	.15	.000
MAR											
03...	12	658	654	.89	--	--	.18	--	--	--	--
10...	12	684	684	.93	--	--	.09	--	--	--	--
12...	10	708	697	.96	--	--	--	--	--	.06	.000
17...	12	660	652	.90	--	--	.02	--	--	--	--
24...	12	708	704	.96	--	--	.02	--	--	--	--
25...	--	--	--	--	29	.00	.00	.000	.000	.00	.020
31...	12	690	689	.94	--	--	.02	--	--	--	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	11	716	710	.97	--	--	.02	--	--	--	--
08...	9.4	781	705	1.06	--	--	--	--	--	.03	.020
14...	11	752	746	1.02	--	--	.00	--	--	--	--
21...	10	792	789	1.08	--	--	.05	--	--	--	--
22...	--	--	--	--	44	.03	.08	.010	.000	.08	.000
28...	9.0	774	768	1.05	--	--	.14	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DISSOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
15...	.020	.12	.55	.59	.65	.04	.61	.87	.79	3.9	.030
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	.02	1.1	--	1.1	--	--	1.3	--	5.5	.010
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
13...	.020	.02	.87	.43	.89	.44	.45	1.0	.59	4.6	.050
16...	--	.01	.53	--	.54	--	--	.69	--	3.1	.010
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
02...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
10...	.000	.05	.84	.82	.88	.06	.82	1.0	.99	4.6	.040
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	.01	.77	--	.78	--	--	.89	--	3.9	.040
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	.010	.17	.31	.40	.45	.04	.41	.61	.60	2.7	.040
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
26...	--	.00	.25	--	.25	--	--	.40	--	1.8	.040
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
12...	.000	.00	.67	.40	.67	.27	.40	.74	.46	3.3	.070
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	--	.02	.98	--	1.0	--	--	1.0	--	4.4	.070
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	.000	.02	.60	.41	.62	.21	.41	.63	.44	2.8	.100
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	.00	.51	--	.51	--	--	.55	--	2.4	.080
28...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
15...	.09	.020	--	--	4	4	300	100	--	1	<1
19...	--	--	--	--	--	--	--	--	--	--	--
26...	.03	--	.000	.00	--	--	--	--	190	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
13...	.15	.030	--	--	--	--	--	--	--	--	--
16...	.03	--	.000	.00	--	--	--	--	190	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
02...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
10...	.12	.010	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	.12	--	.010	.03	--	--	--	--	190	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	.12	.000	--	--	4	2	300	100	--	0	<1
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
26...	.12	--	.030	.09	--	--	--	--	190	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
12...	.21	.000	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	.21	--	.000	.00	--	--	--	--	140	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	.31	.010	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	.25	--	.070	.21	--	--	--	--	170	--	--
28...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
15...	4	0	0	<3	0	0	200	<10	2	0	20
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	200	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	270	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
02...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	490	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	0	0	0	<3	2	0	690	<10	0	0	60
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	450	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	520	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	740	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
15...	2	.0	.0	3	0	2	2	0	0	0	3
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	0	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
02...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	2	.0	.0	1	0	3	2	0	0	10	<3
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	0	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TRITIUM IN WATER MOLECULES (TU)	TRITIUM WATER MOLECULES COUNT ERROR (TU)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)
OCT											
01...	94.9	4.4	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	92.0	5.5	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	5.5	.1	63000	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	7.6	--	--	--	--	--	--	--	--
DEC											
03...	83.4	5.4	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	8.4	--	--	--	--	--	--	--	--
16...	--	--	3.7	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
02...	83.9	5.4	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	8.1	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	4.4	.8	--	28.3	27.4	295	3.05	.230
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	6.5	--	--	--	--	--	--	--	--
MAR											
03...	83.5	5.0	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	4.6	--	--	37000	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	6.9	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	72.8	4.9	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	11	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	7.4	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW (CFS)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAY												
01...	--	16600	--	--	--	--	--	--	--	--	--	--
05...	--	13000	--	1220	8.1	--	--	2.1	--	--	--	--
12...	1115	14400	14500	1220	7.9	24.5	19.5	2.4	8.9	14	48	63
19...	--	13700	--	1190	8.0	--	--	1.9	--	--	--	--
26...	--	13600	--	1200	8.1	--	--	2.8	--	--	--	--
27...	1130	--	14000	1250	7.9	25.0	22.0	--	--	8	--	--
JUN												
02...	--	13500	--	1230	7.9	--	--	3.2	--	--	--	--
09...	--	13500	--	1200	8.1	--	--	2.4	--	--	--	--
11...	1000	--	16000	1320	7.8	32.0	24.0	4.4	6.2	16	90	56
16...	--	14800	--	1230	8.0	--	--	1.0	--	--	--	--
23...	--	16900	--	1240	7.8	--	--	2.9	--	--	--	--
24...	1100	--	15900	1230	7.9	--	24.0	--	--	12	--	--
30...	--	18100	--	1230	7.9	--	--	2.7	--	--	--	--
JUL												
01...	1300	18500	--	--	--	--	--	--	--	--	--	--
07...	--	16700	--	1230	7.9	--	--	1.5	--	--	--	--
08...	0930	--	16600	1275	8.1	38.0	27.0	4.8	6.5	9	15	30
14...	--	17000	--	1200	7.8	--	--	1.3	--	--	--	--
21...	--	18000	--	1190	7.8	--	--	1.0	--	--	--	--
22...	1045	--	18200	1190	7.8	36.0	29.0	--	--	10	--	--
28...	--	16400	--	1200	7.9	--	--	2.2	--	--	--	--
AUG												
01...	1250	--	16000	--	--	--	--	--	--	--	--	--
04...	--	14900	--	1230	7.9	--	--	2.3	--	--	--	--
11...	--	15800	--	1210	7.9	--	--	1.0	--	--	--	--
12...	1000	--	14700	1210	7.4	36.5	28.5	5.0	7.5	11	16	41
18...	--	16500	--	1200	7.9	--	--	1.5	--	--	--	--
25...	--	16700	--	1200	7.8	--	--	1.1	--	--	--	--
27...	1130	--	17800	1200	8.2	38.0	30.0	--	7.1	8	--	--
SEP												
01...	--	15600	--	1210	8.0	--	--	1.2	--	--	--	--
02...	--	15700	--	--	--	--	--	--	--	--	--	--
08...	--	14900	--	1220	8.0	--	--	1.5	--	--	--	--
09...	0900	--	13400	1230	7.6	29.5	25.5	53	8.2	44	37	120
15...	--	14100	--	1220	8.1	--	--	751	--	--	--	--
22...	--	14300	--	1210	8.0	--	--	1.0	--	--	--	--
24...	1100	--	13300	1280	7.9	32.0	24.0	--	7.7	5	--	--
29...	--	13600	--	1210	7.9	--	--	1.7	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
05...	343	202	88	30	120	2.8	5.4	141	308	112	.6
12...	347	208	88	31	124	2.9	5.2	139	310	109	.4
19...	333	192	84	30	120	2.9	5.4	141	290	102	.5
26...	363	219	86	36	120	2.7	5.0	144	304	110	.4
27...	--	--	--	--	--	--	--	--	--	--	--
JUN											
02...	360	216	85	36	120	2.8	5.2	144	318	115	.5
09...	353	209	87	33	112	2.6	5.4	144	304	102	.4
11...	360	220	89	33	120	2.8	5.6	140	330	110	.4
16...	344	201	85	32	128	3.0	6.0	143	322	108	.5
23...	357	213	87	34	125	2.9	6.8	144	326	105	.4
24...	--	--	--	--	--	--	--	--	--	--	--
30...	352	211	85	34	128	3.0	5.0	141	322	108	.7
JUL											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	341	197	84	32	124	2.9	5.0	144	310	100	.4
08...	340	200	85	32	120	2.8	6.0	140	310	110	1.2
14...	338	197	81	33	130	3.1	5.0	141	300	111	.7
21...	345	201	84	33	124	2.9	5.2	144	306	105	.5
22...	--	--	--	--	--	--	--	--	--	--	--
28...	303	161	72	30	131	3.3	5.6	143	302	105	.5
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	335	191	88	28	126	3.0	5.6	144	292	108	.5
11...	325	182	84	28	130	3.1	5.2	143	305	102	.4
12...	340	210	83	31	130	3.1	6.2	130	310	110	.4
18...	333	191	84	30	130	3.1	5.3	143	303	115	.5
25...	320	178	82	28	124	3.0	5.3	143	298	105	.4
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
01...	336	199	82	32	124	2.9	5.0	138	300	102	.4
02...	--	--	--	--	--	--	--	--	--	--	--
08...	337	191	84	31	130	3.1	6.2	146	310	108	.5
09...	340	200	81	33	130	3.1	6.4	140	310	120	.4
15...	331	187	83	30	130	3.1	5.2	144	296	108	.6
22...	338	197	86	30	124	2.9	5.6	141	285	119	.5
24...	--	--	--	--	--	--	--	--	--	--	--
29...	346	205	86	32	120	2.8	5.0	141	286	120	.5

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
05...	10	776	760	1.06	--	--	.16	--	--	--	--
12...	11	778	762	1.06	--	--	.02	--	--	.14	.000
19...	13	756	731	1.03	--	--	.11	--	--	--	--
26...	11	770	760	1.05	--	--	.14	--	--	--	--
27...	--	--	--	--	16	.16	.16	.000	.000	.16	.060
JUN											
02...	10	792	777	1.08	--	--	.11	--	--	--	--
09...	10	780	742	1.06	--	--	.16	--	--	--	--
11...	9.5	809	782	1.10	--	--	--	--	--	.13	.080
16...	10	782	777	1.06	--	--	.00	--	--	--	--
23...	10	806	782	1.10	--	--	.09	--	--	--	--
24...	--	--	--	--	20	.14	.12	.000	.010	.13	.010
30...	10	796	777	1.08	--	--	.05	--	--	--	--
JUL											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	11	780	754	1.06	--	--	.14	--	--	--	--
08...	9.6	806	759	1.10	--	--	--	--	--	.13	.000
14...	10	776	756	1.06	--	--	.09	--	--	--	--
21...	11	770	756	1.05	--	--	.07	--	--	--	--
22...	--	--	--	--	103	.04	.05	.000	.020	.07	.000
28...	11	762	743	1.04	--	--	.07	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	11	774	746	1.05	--	--	--	--	--	--	--
11...	12	752	753	1.02	--	--	--	--	--	--	--
12...	10	790	759	1.07	--	--	--	--	--	.04	.000
18...	11	776	765	1.06	--	--	.09	--	--	--	--
25...	13	772	742	1.05	--	--	--	--	--	--	--
27...	--	--	--	--	117	.04	.06	.010	.010	.07	.000
SEP											
01...	11	774	739	1.05	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
08...	12	--	770	1.05	--	--	--	--	--	--	--
09...	10	852	775	1.16	--	--	--	--	--	.08	.000
15...	11	820	751	1.12	--	--	--	--	--	--	--
22...	12	760	747	1.03	--	--	--	--	--	--	--
24...	--	--	--	--	52	.12	.13	.010	.000	.13	.020
29...	12	774	746	1.05	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	.000	.00	1.2	--	1.2	--	--	1.4	--	6.0	.070
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
27...	--	.07	.60	--	.66	--	--	.82	--	3.6	.040
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
11...	.000	.10	.55	.58	.63	.05	.58	.76	.71	3.4	.090
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	.01	.80	--	.81	--	--	.95	--	4.2	.030
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	.010	.00	.69	.61	.69	.07	.62	.85	.75	3.6	.060
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	.00	.92	--	.92	--	--	.96	--	4.3	.030
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
12...	.010	.00	.92	.34	.92	.57	.35	.95	.39	4.2	.020
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	.00	.82	--	.82	--	--	.87	--	3.9	.110
SEP											
01...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
09...	.020	.00	.62	.33	.62	.27	.35	.73	.43	3.2	.020
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	--	.02	.72	--	.74	--	--	.87	--	3.9	.120
29...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	.21	.020	--	--	3	3	200	100	--	0	<1
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
27...	.12	--	.050	.15	--	--	--	--	170	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
11...	.28	.070	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	.09	--	.010	.03	--	--	--	--	160	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	.18	.100	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	.09	--	.000	.00	--	--	--	--	170	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
12...	.06	.010	--	--	4	4	200	100	--	0	2
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	.34	--	.000	.00	--	--	--	--	170	--	--
SEP											
01...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
09...	.06	.000	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	.37	--	.010	.03	--	--	--	--	260	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	0	0	2	<3	4	2	750	30	3	2	50
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	570	--	--	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	610	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	340	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
12...	40	0	0	<3	19	0	370	<10	5	3	30
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	1200	--	--	--	--
SEP											
01...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	1200	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	9	.0	.0	7	5	3	2	0	0	10	<3
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	0	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
01...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
12...	3	.0	.0	3	2	2	2	0	0	40	<3
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
01...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	0	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TRITIUM IN WATER MOLECULES (TU)	TRITIUM WATER MOLECULES COUNT ERROR (TU)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)
MAY											
01...	81.1	4.9	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	4.7	.4	2000	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	4.3	--	--	--	--	--	--	--	--
JUN											
02...	79.8	5.0	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	7.6	--	--	15000	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	5.4	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
01...	81.6	4.4	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	5.3	--	--	5500	.000	.000	.00	.110	.000
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	4.8	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
01...	83.4	4.3	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	10	.2	8900	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	7.6	--	--	--	--	--	--	--	--
SEP											
01...	--	--	--	--	--	--	--	--	--	--	--
02...	84.4	4.3	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	4.0	--	--	4100	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	5.4	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)
NOV 15...	0915	.00	.0	.00	.00	.00	.00	.00	.00	.00
JAN 10...	0940	.00	.0	.00	.00	.00	.00	.00	.00	.00
FEB 13...	0930	ND	ND	ND	ND	ND	ND	ND	--	ND
MAR 12...	0940	.00	.0	.00	.00	.00	.00	.00	.00	.00
APR 08...	1000	.00	--	--	.00	--	.00	--	--	--
MAY 12...	1115	.00	.0	.00	.00	.00	.00	.00	.00	.00
JUN 11...	1000	.00	.0	.00	.00	.00	.00	.00	.00	.00
JUL 08...	0930	.00	.0	.00	.00	.00	.00	.00	.00	.00
SEP 09...	0900	.00	.0	.00	.00	.00	.00	.00	.00	.00

DATE	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)
NOV 15...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JAN 10...	.00	.00	.00	.00	.00	.00	.00	.00	.00
FEB 13...	ND	ND	ND	ND	ND	ND	ND	ND	--
MAR 12...	.00	.00	.00	.00	.00	.00	.00	.00	.00
APR 08...	.00	.00	--	--	.00	--	.00	.00	.00
MAY 12...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN 11...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 08...	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 09...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	AROCLOR TOTAL 1254 PCB SERIES (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 15...	--	.00	.00	--	0	.00	.00	.00	.00
JAN 10...	.0	.00	.00	--	0	.00	.00	.00	.00
FEB 13...	--	ND	--	.1	ND	ND	--	--	--
MAR 12...	.0	.00	.00	--	0	.00	--	--	--
APR 08...	--	.00	--	--	--	.00	.00	.00	.00
MAY 12...	.0	.00	.00	--	0	.00	.00	.00	.00
JUN 11...	.0	.00	.00	--	0	.00	.00	.00	.00
JUL 08...	.0	.00	.00	--	0	.00	.00	.00	.00
SEP 09...	.0	.00	.00	--	0	.00	.00	.00	.00

ND Material specifically analyzed for but not detected.

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	1300	1320	1360	1300	1200	1100	1200	1230	1240	1200	1210
2	1230	1310	1300	1280	1370	1130	1110	1230	1230	1200	1200	1220
3	1220	1310	1340	1280	1340	1070	1120	1250	1220	1260	1200	1210
4	1240	1320	1340	1300	1350	1080	1110	1220	1240	1260	1230	1200
5	1250	1300	1320	1300	1330	1150	1100	1220	1240	1250	1210	1220
6	1260	1290	1330	1340	1320	1100	1130	1220	1260	1240	1210	1210
7	1260	1260	1340	1340	1320	1120	1170	1220	1270	1230	1200	1220
8	1240	1280	1350	1340	1310	1080	1180	1240	1230	1230	1210	1220
9	1240	1280	1350	1300	1330	1150	1200	1210	1200	1240	1200	1220
10	1250	1330	1320	1320	1360	1120	1200	1220	1230	1200	1200	1220
11	1270	1290	1290	1350	1320	1100	1220	1200	1230	1200	1210	1210
12	1260	1310	1310	1400	1250	1090	1210	1220	1290	1210	1210	1220
13	1270	1300	1300	1470	1240	1150	1210	1210	1240	1210	1210	1220
14	1290	1300	1310	1530	1220	1100	1200	1220	1260	1200	1200	1200
15	1260	1320	1340	1500	1230	1090	1210	1190	1260	1180	1200	1220
16	1250	1340	1330	1500	1300	1050	1210	1210	1230	1190	1190	1230
17	1250	1340	1320	1480	1340	1080	1220	1230	1250	1190	1190	1200
18	1280	1340	1290	1470	1400	1070	1200	1210	1250	1180	1200	1200
19	1310	1300	1280	1420	1390	1060	1200	1190	1240	1170	1220	1200
20	1300	1270	1280	1420	1360	1100	1200	1180	1240	1180	1200	1210
21	1280	1270	1300	1420	1330	1100	1210	1220	1230	1190	1210	1200
22	1270	1280	1330	1340	1290	1130	1210	1190	1220	1200	1210	1210
23	1250	1300	1380	1360	1310	1150	1200	1200	1240	1190	1200	1200
24	1240	1310	1440	1350	1300	1130	1210	1240	1240	1180	1210	1210
25	1280	1330	1480	1310	1340	1090	1210	1220	1230	1180	1200	1220
26	1300	1330	1420	1310	1330	1080	1230	1210	1230	1190	1200	1190
27	1280	1330	1300	1310	1320	1070	1200	1200	1230	1200	1200	1190
28	1290	1310	1290	1270	1300	1090	1210	1200	1240	1200	1190	1200
29	1280	1310	1280	1260	1250	1110	1210	1240	1230	1210	1210	1210
30	1280	1330	1340	1260	---	1080	1200	1230	1230	1210	1220	1210
31	1280	---	1370	1260	---	1120	---	1240	---	1190	1220	---
MEAN	1260	1310	1330	1360	1320	1100	1190	1220	1240	1210	1210	1210
MAX	1310	1340	1480	1530	1400	1200	1230	1250	1290	1260	1230	1230
MIN	1220	1260	1280	1260	1220	1050	1100	1180	1200	1170	1190	1190

WTR YR 1980 MEAN 1250 MAX 1530 MIN 1050

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 1230

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.0	20.0	14.0	13.5	16.0	18.5	18.0	21.0	23.5	29.0	31.0	28.0
2	28.0	19.0	13.5	14.0	16.5	18.5	18.0	21.5	23.5	29.0	31.0	28.0
3	27.0	19.0	13.5	13.5	16.5	18.5	18.0	22.0	24.5	29.0	31.0	28.0
4	27.0	19.5	14.0	13.5	16.5	18.0	18.0	23.5	25.0	29.0	31.0	28.0
5	27.0	19.5	14.0	13.0	16.5	18.0	19.0	23.5	24.5	29.0	30.0	28.0
6	27.0	19.5	14.5	14.0	16.5	18.0	19.0	24.5	25.0	29.0	30.5	28.5
7	27.0	18.5	15.0	13.5	15.5	18.0	19.5	24.5	25.5	29.5	31.0	29.0
8	26.0	19.5	15.5	14.0	15.5	16.0	20.0	24.0	25.5	29.0	31.0	29.0
9	26.0	18.5	15.0	14.0	15.5	16.0	20.0	24.0	25.5	29.5	31.0	28.0
10	26.0	19.5	16.0	14.5	15.5	18.0	20.5	24.0	26.0	29.5	31.5	28.0
11	25.5	18.5	15.0	14.5	15.0	18.0	20.5	22.0	26.0	29.5	31.5	28.0
12	25.0	18.5	13.5	15.0	14.5	18.0	20.0	21.5	25.5	29.5	31.5	28.0
13	25.0	18.0	13.5	16.5	14.5	18.5	19.5	21.5	26.5	29.5	31.5	28.0
14	25.0	17.0	13.5	16.5	15.5	18.5	20.0	22.0	26.5	29.5	31.0	27.0
15	25.0	18.0	12.0	17.0	16.0	19.0	20.5	24.0	27.0	29.5	31.0	26.5
16	25.0	18.0	12.0	18.0	16.5	18.5	21.0	24.0	27.0	30.0	29.5	27.0
17	25.0	17.0	13.5	18.0	17.0	18.0	22.0	24.5	27.0	30.0	29.5	28.0
18	25.5	18.0	13.5	16.5	18.5	17.0	22.0	25.0	28.0	30.0	29.0	28.0
19	25.5	18.0	13.5	15.5	19.5	17.0	23.0	25.0	27.0	30.0	28.0	28.0
20	24.5	18.0	14.0	15.0	18.5	17.0	23.0	25.5	27.0	30.5	28.0	28.0
21	22.0	15.5	14.5	14.0	18.0	18.5	23.0	25.5	27.0	30.5	29.0	26.5
22	23.0	13.5	15.0	14.0	18.0	18.5	21.5	25.5	28.0	30.5	29.0	26.5
23	21.5	14.5	14.5	15.0	18.0	18.5	20.5	25.5	27.0	30.5	29.0	26.5
24	21.5	14.5	14.0	14.5	18.5	18.5	20.5	24.0	27.0	31.0	29.0	26.0
25	22.0	14.5	13.5	13.5	18.5	18.5	20.5	22.0	27.0	31.0	29.0	26.5
26	22.0	15.5	15.0	13.5	18.5	17.0	20.5	22.0	28.0	31.0	29.0	27.0
27	23.0	17.0	14.5	14.0	19.0	18.0	21.0	23.0	28.0	31.0	29.5	27.0
28	23.0	15.5	14.5	14.5	18.5	18.0	21.0	23.5	29.0	31.5	29.5	28.0
29	21.5	15.0	14.0	14.5	18.5	18.0	21.0	23.0	29.0	31.5	29.5	28.5
30	19.5	15.0	13.5	15.0	---	18.0	21.5	23.5	29.0	31.0	29.0	28.0
31	19.0	---	13.5	15.5	---	18.0	---	23.5	---	31.0	28.0	---
MEAN	24.5	17.5	14.0	15.0	17.0	18.0	20.5	23.5	26.5	30.0	30.0	27.5
MAX	28.0	20.0	16.0	18.0	19.5	19.0	23.0	25.5	29.0	31.5	31.5	29.0
MIN	19.0	13.5	12.0	13.0	14.5	16.0	18.0	21.0	23.5	29.0	28.0	26.0

WTR YR 1980 MEAN 22.0 MAX 31.5 MIN 12.0

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 15,79		MAR 12,80		MAY 12,80		JUN 11,80	
TIME	0915		0940		1115		1000	
TOTAL CELLS/ML	63000		37000		2000		15000	
DIVERSITY: DIVISION	0.3		0.2		1.9		0.5	
.CLASS	0.3		0.2		1.9		0.5	
..ORDER	0.3		0.4		2.7		0.8	
...FAMILY	0.4		0.4		3.3		0.8	
....GENUS	0.5		0.4		3.6		1.2	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....ANKISTRODESMUS	360	1	*	0	260	13	130	1
....CHODATELLA	--	-	--	-	--	-	130	1
....DICTYOSPHAERIUM	--	-	--	-	28	1	--	-
....OOCYSTIS	--	-	--	-	14	1	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....CRUCIGENIA	--	-	*	0	--	-	--	-
....SCENEDESMUS	--	-	*	0	83	4	--	-
..TETRASPORALES								
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	*	0	350#	17	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	14	1	--	-
....CHLAMYDOMONAS	--	-	*	0	28	1	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	1600	3	280	1	250	12	12000#	80
....MELOSIRA	--	-	*	0	83	4	1200	7
....SKELETONEMA	360	1	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	*	0	28	1	--	-
....COCCONEIS	--	-	*	0	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	*	0	14	1	--	-
...DIATOMACEAE								
....DIATOMA	--	-	*	0	28	1	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	*	0	140	7	--	-
....SYNEDRA	--	-	*	0	--	-	--	-
...NAVICULACEAE								
....ENTOMONEIS	--	-	--	-	14	1	--	-
....MASTOGLOIA	--	-	*	0	--	-	--	-
....NAVICULA	*	0	*	0	28	1	260	2
....PLEUROSIGMA	*	0	--	-	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	*	0	*	0	83	4	510	3
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	190	9	260	2
...CRYPTOMONADACEAE								
....CRYPTOMONAS	*	0	*	0	69	3	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	480	1	--	-	--	-
....ANACYSTIS	--	-	--	-	330#	16	510	3
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
....ANABAENOPSIS	800	1	*	0	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	35000#	95	--	-	--	-
....SCHIZOTHRIX	59000#	94	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	*	0	--	-	14	1	--	-
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	130	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 6,80		AUG 12,80		SEP 9,80	
TIME	0930		1000		0900	
TOTAL CELLS/ML	5500		8900		4100	
DIVERSITY: DIVISION	1.5		1.2		1.2	
.CLASS	1.5		1.2		1.2	
..ORDER	1.8		1.8		1.5	
...FAMILY	1.9		1.9		1.6	
....GENUS	2.5		2.0		1.6	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	*	0	--	-
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-
....SELENASTRUM	34	1	--	-	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	--	-	--	-
....SCENEDESMUS	470	8	200	2	420	10
..TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	34	1	--	-	--	-
....CHLAMYDOMONAS	170	3	170	2	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	1900#	35	2800#	32	2700#	64
....MELOSIRA	1300#	23	--	-	--	-
....SKELETONEMA	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	*	0	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	130	2	--	-
....SYNEDRA	--	-	*	0	91	2
...NAVICULACEAE						
....ENTOMONEIS	--	-	--	-	--	-
....MASTOGLOIA	--	-	--	-	--	-
....NAVICULA	--	-	100	1	30	1
....PLEUROSIGMA	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	170	3	67	1	150	4
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSTIDACEAE						
....CHROOMONAS	130	2	--	-	60	1
...CRYPTOMONADACEAE						
....CRYPTOMONAS	34	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	4300#	48	--	-
....ANACYSTIS	100	2	170	2	720#	18
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	810	9	--	-
....ANABAENOPSIS	--	-	--	-	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	1200#	21	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09429500 COLORADO RIVER BELOW IMPERIAL DAM, AZ-CA

LOCATION.--Forebay gage: Lat 32°52'59", long 114°27'57", in NW¼SW¼ sec.9, T.15 S., R.24 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, near All-American Canal headworks at west end of Imperial Dam, 5 mi (8 km) upstream from Laguna Dam, 15 mi (24 km) northeast of Yuma, 90 mi (145 km) downstream from Palo Verde Dam, and 147 mi (237 km) downstream from Parker Dam.

DRAINAGE AREA.--188,500 mi^2 (488,200 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1971 published as "at Imperial Dam." Records of flow reaching Imperial Dam, formerly published with this station, are now published separately as sta 09429490, "Colorado River above Imperial Dam."

GAGE.--Water-stage recorder in forebay, 12 calibrated gates on California sluiceway, 8 calibrated gates on Gila sluiceway, and calibrated manometer on each discharge pipe from desilting basin. Datum of forebay gage is 162.00 ft (49.378 m) U.S. Bureau of Reclamation datum.

REMARKS.--Records good. Records of daily discharge show flow of Colorado River passing Imperial Dam, and include water released to river through California and Gila sluiceways, sludge from desilting basins returned to river, and leakage through dam. For records of flow reaching Imperial Dam see sta 09429490.

Flow of Colorado River regulated by many reservoirs, principally Lake Mead, since 1935. Many diversions from Colorado River and tributaries above station. Diversion to Mittry Lake and monthend contents of Senator Wash Reservoir also are now published with sta 09429490.

COOPERATION.--Records of gate openings furnished by U.S. Water and Power Resources Services (formerly U.S. Bureau of Reclamation). Records of sludge return flow from desilting basins furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,300 ft^3/s (150 m^3/s) Aug. 18, 1977; minimum daily, 27 ft^3/s (0.76 m^3/s) Dec. 15-18, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,650 ft^3/s (103 m^3/s) June 29; minimum daily, 244 ft^3/s (6.91 m^3/s) Nov. 22, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	470	282	268	276	289	268	355	3270	1370	2620	1340	1370
2	557	282	268	344	501	367	510	2780	1330	2680	1370	1420
3	644	274	276	276	575	366	747	1440	1340	2550	1370	1370
4	470	264	455	276	779	365	951	1250	1370	2290	1310	1370
5	382	361	515	276	779	364	1150	1200	1330	2270	1330	1530
6	324	539	276	276	779	363	1700	840	1240	2270	1370	1370
7	274	452	364	282	821	362	981	963	1260	2270	1420	1370
8	458	625	268	285	572	361	946	955	1260	2050	1500	1350
9	459	272	268	610	284	360	945	1060	1370	1690	1370	1450
10	460	264	429	446	279	360	983	357	2370	1510	1370	1380
11	459	264	411	551	274	480	907	710	2350	2140	1310	1360
12	282	439	276	454	269	873	868	1300	1320	2410	1400	1420
13	274	351	276	455	533	357	483	1330	1270	2460	1340	1380
14	274	351	275	357	534	356	848	1320	1270	1900	1310	1150
15	430	262	267	375	358	360	670	1320	1270	2020	1480	1340
16	563	351	354	463	269	838	1340	1330	1260	1780	1370	1420
17	460	337	478	375	269	1230	1610	1360	1270	2090	1380	1290
18	282	254	343	289	269	1540	1970	1360	1270	2040	1290	1540
19	282	351	274	283	269	1510	2690	1070	1270	1990	1330	1430
20	274	341	342	285	445	1700	2980	856	1230	3050	1330	1380
21	274	252	344	294	357	1770	3260	1380	1270	2380	1410	1380
22	459	244	275	296	269	1810	3090	1810	1270	2450	1570	1320
23	638	252	275	297	410	1970	2980	1380	1300	2450	1640	1380
24	371	244	275	397	269	1490	2900	1380	1480	2330	1510	1390
25	282	377	275	297	269	1800	2850	1380	1790	2360	2120	1410
26	371	421	496	467	357	1800	2910	1380	2070	2130	2030	1410
27	274	531	342	378	269	1790	2850	1380	2370	1820	2480	1380
28	274	263	354	474	429	1830	2160	1250	3130	1290	2110	1380
29	548	263	273	474	269	2250	2370	1330	3650	1320	1340	1400
30	282	263	273	466	---	1590	2590	1360	2420	1260	1370	1340
31	371	---	411	466	---	559	---	1380	---	1370	1370	---
TOTAL	12222	10026	10276	11540	12045	31439	51594	41481	48770	65220	46240	41500
MEAN	394	334	331	372	415	1014	1720	1338	1626	2104	1492	1383
MAX	644	625	515	610	821	2250	3260	3270	3650	3050	2480	1540
MIN	274	244	267	276	269	268	355	357	1230	1260	1290	1150
AC-FT	24240	19890	20380	22890	23890	62360	102300	82280	96740	129400	91720	82320

CAL YR 1979 TOTAL 134254 MEAN 368 MAX 1660 MIN 133 AC-FT 266300
WTR YR 1980 TOTAL 382353 MEAN 1045 MAX 3650 MIN 244 AC-FT 758400

09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA

LOCATION.--Lat 32°48'44", long 114°30'51", in SE¼NE¼ sec.35, T.15 S., R.24 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, on right bank 1.4 mi (2.3 km) downstream from Laguna Dam, 2.8 mi (4.5 km) northeast of Bard, Calif., and 10 mi (16 km) northeast of Yuma, Ariz.

DRAINAGE AREA.--188,600 mi^2 (488,500 km^2), approximately, including 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 120.84 ft (36.832 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Records fair. Natural flow of Colorado River at this point is affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas. Flow past station consists mainly of water released through Imperial Dam, sludge from the desilting basins at Imperial Dam, seepage through Imperial Dam, and seepage from the All-American Canal and the Gila Gravity Main Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,030 ft^3/s (142 m^3/s) Aug. 18, 1977, gage height, 12.88 ft (3.926 m); minimum daily, 71 ft^3/s (2.01 m^3/s) May 29, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,360 ft^3/s (95.2 m^3/s) June 29, gage height, 11.29 ft (3.441 m); minimum daily, 230 ft^3/s (6.51 m^3/s) Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	381	320	348	462	293	304	2880	1430	2660	1380	1490
2	382	279	330	401	492	388	414	2780	1390	2730	1380	1500
3	409	243	348	405	474	449	668	1790	1370	2630	1420	1490
4	457	230	386	324	786	429	958	1280	1410	2360	1370	1580
5	412	260	455	319	749	382	1320	1230	1400	2320	1350	1600
6	341	338	428	314	849	350	1570	1200	1330	2340	1400	1520
7	315	503	393	323	1060	361	1310	1060	1290	2290	1430	1460
8	339	498	317	327	567	381	951	924	1290	2120	1590	1380
9	377	422	320	363	353	384	1020	1080	1300	1720	1520	1470
10	370	319	352	527	324	371	1100	401	2240	1050	1320	1490
11	376	364	402	542	353	365	1310	541	2370	2140	1260	1360
12	355	445	407	482	358	398	1390	1300	1720	2390	1370	1340
13	298	437	403	400	374	439	749	1430	1330	2510	1480	1350
14	341	421	393	458	374	482	300	1420	1200	1870	1480	1060
15	475	398	329	470	426	488	358	1410	1260	1980	1440	1240
16	544	362	311	389	439	625	1360	1410	1260	1600	1400	1480
17	478	358	336	464	424	970	1650	1400	1270	2060	1480	1510
18	441	358	352	591	358	1340	1480	1500	1290	1860	1470	1420
19	359	357	286	484	345	1370	2410	1440	1280	1850	1320	1460
20	365	382	288	349	319	1610	2650	469	1280	2620	1400	1390
21	366	486	322	294	338	1840	2900	1350	1240	2440	1420	1270
22	394	434	327	294	387	1750	2980	1400	1240	2340	1500	1200
23	397	358	319	301	406	2050	2910	1390	1210	2440	1540	1330
24	397	333	321	367	432	1730	2790	1400	1340	2270	2170	1500
25	392	353	322	318	417	1730	2700	1360	1500	2300	2490	1460
26	361	369	407	280	413	1830	2780	1370	1980	2250	2210	1520
27	343	353	484	308	360	1830	2800	1390	2330	1970	2450	1410
28	384	348	401	393	323	1820	2340	1360	2830	1240	2410	1090
29	462	295	341	498	301	2260	2380	1300	3290	1120	1410	1350
30	466	309	338	473	---	1760	2430	1290	2740	1200	1440	1580
31	421	---	340	457	---	529	---	1380	---	1280	1480	---
TOTAL	12273	10993	11078	12263	13263	31004	50282	41935	48410	63950	48780	42300
MEAN	396	366	357	396	457	1000	1676	1353	1614	2063	1574	1410
MAX	544	503	484	591	1060	2260	2980	2880	3290	2730	2490	1600
MIN	298	230	286	280	301	293	300	401	1200	1050	1260	1060
AC-FT	24340	21800	21970	24320	26310	61500	99730	83180	96020	126800	96760	83900

CAL YR 1979 TOTAL 140276 MEAN 384 MAX 1490 MIN 130 AC-FT 278200
WTR YR 1980 TOTAL 386531 MEAN 1056 MAX 3290 MIN 230 AC-FT 766700

COLORADO RIVER MAIN STEM

09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1972 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0120	438	1280	8.1	26.0	340	190	82	32	150	3.6	4.0
08...	0120	379	1330	8.1	25.0	330	180	82	30	150	3.6	5.0
15...	0140	426	1350	8.1	23.5	360	200	86	34	160	3.7	4.0
22...	0140	394	1370	8.1	20.5	350	190	88	32	160	3.7	4.0
29...	0050	468	1370	8.2	20.0	340	180	88	30	160	3.8	4.0
NOV												
05...	0145	273	1410	8.1	19.5	383	172	94	24	164	3.9	5.2
12...	0110	451	1280	7.9	--	344	186	85	32	148	3.5	5.2
19...	0200	357	1410	8.0	17.0	356	196	90	32	164	3.8	6.0
26...	0115	362	1380	8.0	15.5	381	224	95	35	160	3.6	5.2
DEC												
03...	0040	348	1380	7.8	15.0	393	238	95	38	148	3.2	5.5
10...	0145	314	1420	7.9	14.5	386	227	92	38	144	3.2	4.8
17...	0110	309	1380	7.9	13.5	360	200	90	33	156	3.6	5.0
24...	0118	324	1410	7.9	14.0	381	224	95	35	160	3.6	5.8
31...	0100	338	1380	7.9	14.5	342	184	94	26	152	3.6	5.8
JAN												
07...	0145	304	1370	7.9	14.5	344	184	95	26	153	3.6	5.8
14...	0120	434	1450	7.9	17.0	369	205	90	35	164	3.7	5.8
21...	0100	291	1560	7.8	14.5	394	227	100	35	182	4.0	5.5
28...	0125	364	1370	7.9	17.0	361	212	92	32	148	3.4	4.9
FEB												
04...	0125	781	1370	8.0	16.0	367	216	91	34	145	3.3	4.5
11...	0100	360	1430	8.0	15.5	354	198	89	32	156	3.6	4.5
18...	0140	322	1430	8.0	19.0	375	220	96	33	150	3.4	5.2
25...	0155	432	1400	7.9	18.0	374	218	97	32	145	3.3	4.8
MAR												
03...	0105	451	1270	8.0	16.5	336	192	85	30	138	3.3	3.8
10...	0120	374	1310	8.0	19.5	329	185	84	29	145	3.5	5.5
17...	0130	841	1090	8.0	18.5	294	158	75	26	108	2.7	4.8
24...	0125	2040	1070	8.1	16.5	298	174	78	25	100	2.5	3.8
31...	0125	882	1110	8.0	19.5	306	168	75	29	100	2.5	4.0
APR												
07...	0130	2030	1140	8.0	19.0	318	177	78	30	120	2.9	5.5
14...	0100	439	1370	8.0	19.0	365	205	92	33	150	3.4	5.8
21...	0120	2800	1220	8.0	23.5	351	207	88	32	128	3.0	5.0
28...	0100	2470	1220	8.0	21.0	351	207	88	32	128	3.0	4.6
MAY												
05...	0210	1270	1230	8.0	21.0	351	204	88	32	112	2.6	5.4
12...	0120	1220	1230	8.0	15.0	336	192	85	30	114	2.7	5.2
19...	0050	1670	1240	8.0	24.5	333	186	84	30	128	3.1	5.9
26...	0050	1350	1240	8.1	21.0	357	210	92	31	120	2.8	5.0
JUN												
02...	0115	1410	1250	8.1	21.5	350	206	89	31	132	3.1	5.6
09...	0120	1300	1250	7.9	24.5	365	247	90	34	118	2.7	5.6
16...	0050	1260	1280	8.0	26.5	349	205	87	32	136	3.2	4.9
23...	0115	1490	1250	8.0	27.0	374	230	92	35	128	2.9	6.8
30...	0100	3280	1240	7.8	26.5	345	207	92	28	128	3.0	5.4
JUL												
07...	0100	2260	1250	7.8	26.5	356	212	90	32	124	2.9	6.7
14...	0145	2280	1210	7.9	30.5	336	195	82	32	126	3.0	5.0
21...	0040	2820	1200	7.9	26.5	350	212	86	33	124	2.9	5.5
28...	0100	1780	1220	7.9	28.0	328	187	82	30	131	3.1	5.7
AUG												
04...	0130	1500	1240	8.0	29.0	358	214	89	33	126	2.9	5.4
11...	0115	1260	1220	8.0	29.5	327	186	85	28	132	3.2	5.2
18...	0110	1680	1210	7.9	26.5	336	197	82	32	130	3.1	5.6
25...	0140	2480	1190	7.8	29.5	329	192	79	32	124	3.0	5.5
SEP												
01...	0125	1510	1230	7.9	25.0	356	219	90	32	124	2.9	5.4
08...	0055	1460	1220	8.0	25.5	335	197	83	31	130	3.1	6.0
15...	0130	1020	1250	8.2	28.0	352	208	90	31	120	2.8	5.9
22...	0115	1280	1220	8.0	19.0	342	201	86	31	124	2.9	5.8
29...	0105	1200	1210	7.9	26.0	349	212	87	32	120	2.8	5.2

09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA--Continued

COOPERATION.--Daily specific conductance record furnished by, and water samples collected by, U.S. Water and Power Resources Service.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 1,870 micromhos Nov. 19, 1976; minimum observed, 1,050 Mar. 24, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 1,620 micromhos Jan. 20; minimum observed, 1,050 micromhos Mar. 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)
OCT												
01...	180	0	148	310	140	.6	11	842	820	1.15	.09	.40
08...	180	0	148	290	140	.6	13	858	800	1.17	.11	.50
15...	190	0	156	330	140	.5	13	866	860	1.18	.11	.50
22...	190	0	156	320	150	.4	12	880	865	1.20	.11	.50
29...	200	0	164	330	150	.4	12	862	874	1.17	.14	.60
NOV												
05...	196	0	161	330	150	.5	12	876	877	1.19	.14	.60
12...	192	0	157	300	145	.7	14	820	825	1.12	.11	.50
19...	196	0	161	335	152	.7	11	876	888	1.19	.16	.70
26...	192	0	157	345	150	.5	13	916	899	1.25	.09	.40
DEC												
03...	190	0	156	335	155	.6	14	890	886	1.21	.09	.40
10...	194	0	159	372	105	.8	13	870	866	1.18	.14	.60
17...	196	0	161	308	150	.4	10	‡1510	854	2.05	.14	.60
24...	192	0	157	330	160	.4	12	900	894	1.22	.07	.30
31...	192	0	157	290	150	.5	15	850	829	1.16	.23	1.0
JAN												
07...	196	0	161	315	145	.3	14	862	852	1.17	.09	.40
14...	200	0	164	340	155	.5	13	922	903	1.25	.16	.70
21...	204	0	167	352	178	.9	14	970	968	1.32	.14	.60
28...	182	0	149	325	145	.6	12	874	850	1.19	.14	.60
FEB												
04...	184	0	151	315	145	.5	14	862	840	1.17	.02	.10
11...	190	0	156	310	150	.6	11	866	844	1.18	.09	.40
18...	190	0	156	305	155	.4	12	870	851	1.18	.25	1.1
25...	190	0	156	325	145	.5	12	872	856	1.19	.09	.40
MAR												
03...	176	0	144	290	128	.4	13	776	773	1.06	.09	.40
10...	176	0	144	295	135	.6	14	800	796	1.09	.11	.50
17...	166	0	136	245	100	.6	12	660	654	.90	.02	.10
24...	152	0	125	260	95	.5	12	656	649	.89	.02	.10
31...	168	0	138	260	90	.5	12	610	654	.83	.00	.00
APR												
07...	172	0	141	288	100	.6	11	734	718	1.00	.02	.10
14...	196	0	161	310	140	1.4	13	850	841	1.16	.00	.00
21...	176	0	144	316	110	.5	9.4	780	776	1.06	.02	.10
28...	176	0	144	310	110	.3	8.6	778	769	1.06	.14	.60
MAY												
05...	180	0	148	278	115	.5	11	742	732	1.01	.14	.60
12...	176	0	144	278	115	.4	10	744	725	1.01	.02	.10
19...	180	0	148	290	110	.6	14	768	752	1.04	.09	.40
26...	180	0	148	316	110	.4	12	780	776	1.06	.14	.60
JUN												
02...	176	0	144	318	115	.5	10	808	789	1.10	.11	.50
09...	144	0	118	352	110	.4	11	812	793	1.10	.14	.60
16...	176	0	144	328	115	.5	10	830	800	1.13	.02	.10
23...	176	0	144	361	105	.4	11	828	826	1.13	.07	.30
30...	168	0	138	336	110	.7	10	800	793	1.09	.05	.20
JUL												
07...	176	0	144	322	110	.4	10	810	787	1.10	.11	.50
14...	172	0	141	300	110	.4	11	776	752	1.06	.05	.20
21...	168	0	138	317	110	.5	11	780	770	1.06	.11	.50
28...	172	0	141	316	110	.5	12	790	772	1.07	.05	.20
AUG												
04...	176	0	144	324	115	.5	11	800	791	1.09	--	--
11...	172	0	141	312	115	.3	11	778	774	1.06	--	--
18...	170	0	139	290	120	.5	11	768	755	1.04	.07	.30
25...	168	0	138	290	112	.4	13	764	739	1.04	--	--
SEP												
01...	168	0	138	322	110	.3	11	800	778	1.09	--	--
08...	168	0	138	316	110	.4	11	792	770	1.08	--	--
15...	176	0	144	320	110	.5	11	820	775	1.12	--	--
22...	172	0	141	311	110	.4	12	780	765	1.06	--	--
29...	168	0	138	295	115	.5	11	800	749	1.09	--	--

‡ Questionable value, not verified.

COLORADO RIVER MAIN STEM

09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1340	1330	1400	1440	1310	1340	1130	1210	1240	1240	1220	1230
2	1310	1350	1410	1420	1430	1300	1180	1230	1230	1240	1240	1220
3	1290	1420	1390	1390	1430	1260	1170	1240	1230	1260	1240	1210
4	1280	1370	1400	1420	1370	1290	1150	1270	1240	1260	1220	1210
5	1270	1370	1380	1400	1350	1290	1140	1230	1240	1250	1230	1230
6	1360	1400	1360	1390	1350	1300	1130	1240	1260	1250	1210	1220
7	1350	1320	1420	1380	1350	1210	1130	1250	1260	1240	1220	1220
8	1340	1320	1430	1460	1410	1220	1190	1260	1270	1240	1220	1230
9	1320	1290	1430	1430	1400	1240	1210	1270	1240	1230	1220	1220
10	1310	1360	1430	1340	1440	1300	1220	1250	1240	1230	1230	1210
11	1310	1410	1380	1350	1430	1180	1220	1250	1240	1220	1220	1220
12	1310	---	1360	1360	1420	1200	1250	1230	1280	1220	1230	1210
13	1330	1350	1380	1410	1380	1140	1280	1230	1290	1220	1230	1210
14	1330	1380	1480	1450	1260	1160	1350	1240	1240	1220	1220	1220
15	1360	1370	1430	1510	1270	1180	1260	1230	1280	1200	1240	1230
16	1350	1500	1410	1540	1270	1180	1250	1220	1260	1200	1220	1210
17	1270	1420	1430	1540	1270	1080	1230	1240	1240	1190	1220	1220
18	1300	1420	1340	1530	1430	1080	1220	1220	1250	1190	1230	1200
19	1360	1420	1360	1540	1470	1070	1220	1230	1240	1190	1220	1220
20	1410	1400	1360	1620	1580	1090	1220	1250	1250	1180	1230	1220
21	1400	1340	1350	1560	1430	1090	1220	1240	1260	1190	1230	1230
22	1410	1360	1370	1560	1400	1090	1220	1230	1230	1200	1230	1230
23	1310	1480	1390	1480	1410	1100	1220	1190	1250	1190	1230	1210
24	1300	1470	1420	1460	1370	1050	1210	1220	1240	1200	1230	1200
25	1300	1440	1460	1400	1400	1080	1230	1250	1240	1200	1220	1200
26	1350	1400	1490	1450	1480	1100	1230	1240	1230	1210	1230	1210
27	1430	1370	1450	1450	1420	1090	1240	1230	1230	1210	1190	1220
28	1430	1350	1400	1370	1440	1090	1210	1220	1240	1220	1210	1220
29	1370	1370	1410	1300	1340	1110	1200	1230	1240	1220	1220	1210
30	1340	1380	1380	1290	---	1110	1210	1230	1240	1220	1220	1210
31	1350	---	1400	1290	---	1100	---	1240	---	1210	1240	---
MEAN	1340	1380	1400	1440	1390	1170	1210	1240	1250	1220	1220	1220
MAX	1430	1500	1490	1620	1580	1340	1350	1270	1290	1260	1240	1230
MIN	1270	1290	1340	1290	1260	1050	1130	1190	1230	1180	1190	1200

WTR YR 1980 MEAN 1290 MAX 1620 MIN 1050

09430500 GILA RIVER NEAR GILA, NM

LOCATION.--Lat 33°03'40", long 108°32'12", in NE¼NW¼ sec.30, T.14 S., R.16 W., Grant County, Hydrologic Unit 15040001, on left bank at Hooker damsite, 1.6 mi (2.6 km) upstream from Mogollon Creek, 7 mi (11 km) northeast of Gila, and at mile 572.5 (921.2 km).

DRAINAGE AREA.--1,864 mi^2 (4,828 km^2).

PERIOD OF RECORD.--April to December 1914, December 1927 to current year. Monthly discharge only December 1927 to September 1930, published in WSP 1313.

REVISED RECORDS.--WSP 1283: Drainage area. WSP 1313: 1944(M), 1949(M). WDR AZ-79-1: 1977.

GAGE.--Water-stage recorder. Datum of gage is 4,655.8 ft (1,419.09 m) National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Dec. 31, 1928, at site 5 mi (8 km) upstream at different datum. Dec. 31, 1928, to Jan. 7, 1942, at site 200 ft (61 m) upstream at same datum.

REMARKS.--Records good. Diversions for irrigation of about 500 acres (2.0 km^2) above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years (water years 1928-80), 140 ft^3/s (3.965 m^3/s), 101,400 acre-ft/yr (125 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft^3/s (918 m^3/s) Dec. 18, 1978, gage height, 12.5 ft (3.81 m), from floodmark, from rating curve extended above 7,000 ft^3/s (200 m^3/s) on basis of slope-area measurement of peak flow; maximum gage height, 17.2 ft (5.24 m) from floodmark, Sept. 29, 1941; minimum discharge, 14 ft^3/s (0.40 m^3/s) July 15, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Other major floods occurred in November 1905, December 1906, and January 1916.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 600 ft^3/s (17 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	1000	*3,430	97.1	4.67	1.423
Sept. 12	0230	645	18.3	2.05	0.625

Minimum, 28 ft^3/s (0.79 m^3/s) July 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	55	62	66	95	340	123	197	96	33	34	48
2	51	55	61	66	99	316	122	199	92	32	32	44
3	49	56	60	65	99	291	122	186	92	31	32	42
4	48	58	60	65	95	300	132	174	90	30	32	40
5	48	56	61	64	91	287	142	172	88	29	32	40
6	47	57	61	61	88	265	137	164	83	28	36	45
7	46	59	62	62	87	249	142	173	83	29	34	61
8	45	62	62	63	88	246	150	196	81	30	40	62
9	45	69	62	63	91	221	169	211	80	30	41	64
10	45	67	62	64	87	226	186	207	79	33	46	133
11	45	65	63	67	83	230	197	202	77	41	70	239
12	45	63	63	68	80	273	211	197	75	43	76	493
13	45	63	64	65	63	278	229	180	75	40	74	263
14	46	62	63	65	258	265	211	159	72	37	74	177
15	46	62	63	67	2790	248	191	143	70	40	75	130
16	46	62	64	65	2520	245	167	136	65	38	71	105
17	46	62	64	65	1320	241	159	137	60	35	59	89
18	47	63	63	65	1080	228	165	130	56	34	51	79
19	48	63	64	67	1220	216	189	124	53	34	48	71
20	48	67	64	67	2100	210	205	128	50	33	44	64
21	51	65	69	69	1920	192	205	137	50	32	42	59
22	52	64	75	84	1280	171	231	143	48	35	39	54
23	53	63	73	88	1040	162	268	158	45	40	37	51
24	53	63	71	85	793	161	256	170	43	40	52	50
25	52	63	67	80	590	156	239	165	40	38	52	51
26	52	63	69	76	486	149	214	152	35	35	59	53
27	52	63	76	74	419	147	185	137	36	34	66	53
28	52	62	75	74	372	144	163	124	35	33	103	53
29	53	62	73	76	360	142	150	113	34	33	92	55
30	53	62	71	81	---	132	163	104	34	36	67	53
31	54	---	67	90	---	125	---	101	---	35	55	---
TOTAL	1514	1856	2034	2177	19694	6856	5423	4919	1917	1071	1665	2821
MEAN	48.8	61.9	65.6	70.2	679	221	181	159	63.9	34.5	53.7	94.0
MAX	54	69	76	90	2790	340	268	211	96	43	103	493
MIN	45	55	60	61	63	125	122	101	34	28	32	40
AC-FT	3000	3680	4030	4320	39060	13600	10760	9760	3800	2120	3300	5600

CAL YR 1979 TOTAL 110028 MEAN 301 MAX 3960 MIN 45 AC-FT 218200
WTR YR 1980 TOTAL 51947 MEAN 142 MAX 2790 MIN 28 AC-FT 103000

09431500 GILA RIVER NEAR REDROCK, NM
(National stream-quality accounting network,
and radiochemical network station)

LOCATION.--Lat 32°43'37", long 108°40'30", in W½ sec.23, T.18 S., R.18 W., Grant County, Hydrologic Unit 15040002, on left bank 0.2 mi (0.3 km) downstream from Copper Canyon, 0.2 mi (0.3 km) upstream from lower end of box canyon, 4.7 mi (7.6 km) northeast of Redrock, 14 mi (23 km) downstream from Mangas Creek, and at mile 539.2 (867.6 km).

DRAINAGE AREA.--2,829 mi^2 (7,327 km^2).

PERIOD OF RECORD.--September 1904 to February 1905 (gage heights only). May 1905 to December 1906, January to December 1907 and July to October 1908 (gage height only). November 1908 to December 1910, January 1911 to January 1912 and May to June 1912 (gage heights only). August 1912 to September 1955, October 1962 to current year. Monthly or annual discharge only for some periods, published in WSP 1313. Published as "near Cliff" 1904-7.

REVISED RECORDS.--WSP 1213: 1906, 1911-15, 1931, 1936-37, 1939, 1941, 1944, 1945(P), 1946(M), 1947. WSP 1283: Drainage area. WSP 1926: 1955. WDR AZ-79-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 4,090 ft (1,247 m), from plane table survey. Prior to Dec. 31, 1907, nonrecording gage at site 13.5 mi (21.7 km) upstream at different datum. May 14, 1908, to July 16, 1909, nonrecording gage at site 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Records fair except those for June through August, which are poor. Diversions for irrigation of about 5,000 acres (20 km^2) above station. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--64 years (water years 1906, 1909-10, 1913-55, 1963-80), 202 ft^3/s (5.721 m^3/s), 146,300 acre-ft/yr (180 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,800 ft^3/s (1,380 m^3/s) Dec. 19, 1978, gage height, 29.8 ft (9.08 m) in gage well, 34.1 ft (10.4 m) from floodmarks, from rating curve extended above 9,500 ft^3/s (269 m^3/s) on basis of slope-area measurement of peak flow; minimum, 2.2 ft^3/s (0.062 m^3/s) Aug. 5, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,180 ft^3/s (175 m^3/s), 1715 hours, Feb. 15, gage height, 11.61 ft (3.539 m), base discharge, 3,000 ft^3/s (85 m^3/s); minimum daily, 20 ft^3/s (0.57 m^3/s) July 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	50	71	71	88	475	122	203	92	23	27	60
2	35	62	65	71	98	437	119	208	94	22	28	40
3	37	52	63	69	93	402	120	209	90	21	30	38
4	42	59	67	69	103	394	116	202	85	21	32	30
5	36	65	69	65	105	366	117	201	80	20	34	30
6	39	69	71	69	98	340	117	212	80	21	34	34
7	35	58	69	67	100	306	116	207	78	23	33	62
8	35	51	67	63	108	295	144	215	130	25	34	49
9	35	51	63	69	114	291	165	222	90	27	38	116
10	41	59	63	71	108	280	171	220	80	30	40	359
11	42	63	63	73	98	282	180	207	74	37	46	343
12	36	59	69	75	98	301	205	193	66	40	40	495
13	36	65	71	69	103	323	203	180	60	50	61	364
14	43	69	73	75	145	315	203	171	60	70	172	191
15	36	67	65	79	3210	321	185	163	58	50	124	113
16	35	59	63	73	3240	329	178	153	55	35	75	100
17	33	69	65	73	1120	320	179	146	50	30	58	97
18	33	65	69	69	1530	310	193	144	38	28	56	94
19	37	59	69	73	1400	302	213	139	40	29	54	84
20	45	59	69	75	2460	289	241	131	40	30	52	74
21	42	73	75	75	2880	281	270	132	38	31	48	68
22	49	67	77	84	1680	271	314	132	36	32	46	50
23	49	69	69	88	950	259	339	131	33	31	44	48
24	52	75	71	88	796	254	335	127	33	30	60	46
25	45	67	75	86	603	249	309	126	30	31	70	47
26	42	65	81	88	540	243	269	123	29	30	44	48
27	44	69	75	86	610	235	211	118	27	29	50	50
28	51	69	77	86	561	232	189	112	25	28	46	52
29	52	69	79	79	510	223	189	106	24	28	65	60
30	54	71	75	84	---	184	190	100	24	28	98	54
31	55	---	69	93	---	166	---	97	---	27	70	---
TOTAL	1282	1904	2167	2355	23549	9275	5902	5030	1739	957	1709	3296
MEAN	41.4	63.5	69.9	76.0	812	299	197	162	58.0	30.9	55.1	110
MAX	55	75	81	93	3240	475	339	222	130	70	172	495
MIN	33	50	63	63	88	166	116	97	24	20	27	30
AC-FT	2540	3780	4300	4670	46710	18400	11710	9980	3450	1900	3390	6540

CAL YR 1979 TOTAL 140564 MEAN 385 MAX 6000 MIN 25 AC-FT 278800
WTR YR 1980 TOTAL 59165 MEAN 162 MAX 3240 MIN 20 AC-FT 117400

09432000 GILA RIVER BELOW BLUE CREEK, NEAR VIRDEN, NM

LOCATION.--Lat 32°38'53", long 108°50'43", in SE¼SW¼ sec.18, T.19 S., R.19 W., Grant County, Hydrologic Unit 15040002, on left bank at head of canyon, 1.4 mi (2.3 km) downstream from Blue Creek, 10 mi (16 km) east of Virden, and 16 mi (26 km) upstream from New Mexico-Arizona State line.

DRAINAGE AREA.--3,203 mi^2 (8,296 km^2), excluding Animas River basin.

PERIOD OF RECORD.--May to November 1914, March to September 1915, July 1927 to current year. July 1927 to May 1931 monthly discharge only, published in WSP 1313, computed as sum of flow at Virden Bridge, 9 mi (14 km) downstream, and in Sunset Canal. Published as "Gila River near Duncan, Ariz.," 1914-15 and as "Gila River at Fuller's Ranch, near Duncan, Ariz.," 1931-38.

REVISED RECORDS.--WSP 1283: Drainage area. WSP 1313: 1929, 1931-32(M).

GAGE.--Water-stage recorder. Altitude of gage is 3,875 ft (1,181.1 m), from river-profile map. May 11, 1914, to Sept. 30, 1915, at site 6 mi (10 km) downstream, 1,000 ft (300 m) upstream from intake of Sunset Canal. June 1 to July 7, 1931, nonrecording gage at present site and datum. Since April 18, 1980, supplementary gage on left bank 800 ft (244 m) downstream at same datum.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Station is above all Duncan Valley diversions. Diversions for irrigation of about 6,200 acres (25.1 km^2) above station.

AVERAGE DISCHARGE.--53 years (water years 1928-80), 185 ft^3/s (5.239 m^3/s), 134,000 acre-ft/yr (165 hm^3/yr); median of yearly mean discharges, 130 ft^3/s (3.68 m^3/s), 94,200 acre-ft/yr (120 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,700 ft^3/s (1,660 m^3/s) Dec. 19, 1978, gage height, 29.00 ft (8.839 m), from rating curve extended above 38,000 ft^3/s (1,080 m^3/s) on basis of slope-area measurement of peak flow; minimum, 1 ft^3/s (0.028 m^3/s) July 14, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,900 ft^3/s (54 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	1130	4,180	118	10.42	3.176	Sept. 10	0100	*4,300	122	11.60	3.536
Feb. 21	0100	2,950	83.5	10.15	3.094						

Minimum daily, 22 ft^3/s (0.62 m^3/s) July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	49	69	72	86		190	219	106	27	24	49
2	36	49	70	74	90		190	235	100	26	24	43
3	35	51	68	73	88		180	240	97	26	24	37
4	34	49	67	73	88		180	224	91	25	25	35
5	35	52	68	71	96		180	207	86	25	27	36
6	36	55	70	72	95		180	219	77	24	28	201
7	34	56	71	74	83		180	217	74	25	28	142
8	34	55	71	72	94		180	222	74	25	31	53
9	33	52	68	73	102		180	230	140	24	30	264
10	34	54	68	75	100		190	240	109	25	35	711
11	34	56	67	77	97		220	235	77	26	43	695
12	38	57	68	79	91		230	232	63	28	32	212
13	36	58	71	76	96		240	224	60	43	140	232
14	36	59	71	75	231		250	214	61	64	266	183
15	38	62	70	80	2220		250	190	64	42	183	154
16	38	62	67	78	4020		240	177	55	36	75	127
17	36	61	65	76	3700		240	163	48	32	59	113
18	34	64	68	75	2100		235	154	45	29	52	102
19	34	64	70	74	1900		245	150	47	27	53	91
20	35	62	70	76	1950		269	138	47	28	49	82
21	40	61	72	77	2580		287	129	43	29	44	77
22	41	66	74	82	1880		298	141	39	28	40	70
23	43	67	72	85	1500		334	141	38	28	34	66
24	45	69	72	85	1300		349	141	38	27	36	62
25	47	70	73	85	1100		349	143	34	28	61	60
26	43	69	78	85	900		328	150	32	27	55	60
27	40	68	79	86	740		287	150	31	26	50	59
28	41	69	78	86	680		245	139	30	24	45	56
29	45	70	80	85	600		219	130	29	23	43	61
30	47	69	79	84	---		210	121	27	23	51	60
31	49	---	75	88	---		---	113	---	22	52	---
TOTAL	1185	1805	2209	2423	28607	9900	7155	5628	1862	892	1739	4213
MEAN	38.2	60.2	71.3	78.2	986	319	239	182	62.1	28.8	56.1	140
MAX	49	70	80	88	4020	---	349	240	140	64	266	711
MIN	33	49	65	71	83	---	180	113	27	22	24	35
AC-FT	2350	3580	4380	4810	56740	19640	14190	11160	3690	1770	3450	8360

CAL YR 1979 TOTAL 147024 MEAN 403 MAX 7400 MIN 33 AC-FT 291600
WTR YR 1980 TOTAL 67618 MEAN 185 MAX 4020 MIN 22 AC-FT 134100

NOTE.--No gage-height record Feb. 23 to Apr. 17.

09432500 DIVERSIONS FROM GILA RIVER IN DUNCAN VALLEY, NM-AZ

LOCATION.--Duncan Valley lies along Gila River in Hidalgo County, N. Mex., and Greenlee County, Ariz. The part in New Mexico is also known as Virden Valley. The valley extends from a point about 8 mi (13 km) east of State line to vicinity of Guthrie, Ariz. Ten canals, listed in the following table in downstream order, and several pumps have rights to divert water from Gila River for irrigation in the valley. The first three canals listed divert in New Mexico and the others divert in Arizona. Intake of Sunset Canal at eastern end of valley, is 6 mi (10 km) downstream from station on Gila River below Blue Creek, near Virden, N. Mex. (09432000). Intake of York Canal, at western end, is about 14 mi (23 km) upstream from station on Gila River near Clifton, Ariz. (09442000).

PERIOD OF RECORD.--January 1936 to September 1980 (discontinued), combined monthly diversions and annual diversions by each canal. See WSP 1313 for summary of records of each canal (some since 1914) prior to 1951. Records of daily discharge for Sunset and New Model Canals have been published in reports of Geological Survey. Records of daily discharge since 1936 published in reports of Gila Water Commissioner.

GAGE.--Water-stage recorders and Parshall flumes.

REMARKS.--Record shows total diversions, unadjusted for return flows. Water obtained by pumping from ground water for irrigation in the valley is not included in these records. Decreed area for irrigation for the valley is 8,061 acres (32.6 km^2). Water was issued for 6,300 acres (25.5 km^2) during calendar year 1979.

COOPERATION.--Records furnished by Gila Water Commissioner.

ANNUAL DIVERSIONS, IN ACRE-FEET, TO EACH CANAL DURING CALENDAR YEAR 1979 AND WATER YEAR 1980

	Canal	Calendar year 1979	Water year 1980
09433000.	Sunset	8,020	13,510
09436000.	New Model	5,440	6,300
09437500.	Valley	2,300	4,060
09439000.	Duncan	0	0
09439500.	Black-McCleskey	0	0
09440000.	Colmenero	0	0
09440100.	Albert	0	0
09440200.	Sexton	0	0
09440300.	R. Sexton	0	0
09440500.	York	0	0
	Direct pumping	0	0
	Total	15,760	23,870

COMBINED MONTHLY DISCHARGE OF CANALS DIVERTING FROM GILA RIVER IN DUNCAN VALLEY, NM-AZ, DURING WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Discharge, in cubic feet per second			Diversions in acre-feet
	Maximum	Minimum	Mean	
October	38.5	22.0	30.0	1,840
November	34.9	13.0	18.7	1,110
December	38.4	12.1	21.5	1,320
CAL YR 1979	73.3	0	21.8	15,770
January	42.1	13.0	30.3	1,860
February	50.6	0	19.8	1,140
March	73.3	15.2	50.4	3,100
April	76.4	68.1	73.0	4,340
May	76.8	64.3	73.1	4,500
June	72.5	13.0	26.1	1,550
July	29.9	8.6	18.3	1,130
August	29.0	6.1	17.9	1,100
September	22.0	10.9	15.0	890
WTR YR 1980	76.8	0	32.9	23,880

09442000 GILA RIVER NEAR CLIFTON, AZ

LOCATION.--Lat 32°57'57", long 109°18'35", in NE¼SE¼ sec.25, T.5 S., R.29 E., Greenlee County, Hydrologic Unit 15040002, on right bank 60 ft (18 m) upstream from bridge on county road, 6 mi (10 km) upstream from San Francisco River, and 6 mi (10 km) south of Clifton Prior to Feb. 6, 1979, at site 500 ft (150 m) downstream.

DRAINAGE AREA.--4,010 mi^2 (10,386 km^2).

PERIOD OF RECORD.--November 1910 to July 1918 (published as "at Guthrie"), October 1927 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1059: 1911-12, 1915, 1917. WSP 1179: 1929(M), 1934(M). WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,336.38 ft (1,016.929 m) National Geodetic Vertical Datum of 1929 (adjusted). Nov. 6, 1910, to July 11, 1918, non-recording gage or water-stage recorder at two sites about 6 mi (10 km) upstream at Guthrie at different datums. March 1928 to June 1948 water-stage recorder at present site at datum 0.91 ft (0.277 m) lower. June 1948 to Oct. 17, 1967, water-stage recorder at site 0.2 mi (0.3 km) upstream at datum 3.12 ft (0.951 m) higher. Oct. 18, 1967, to June 23, 1974, Apr. 10, 1978, to Feb. 6, 1979, at site 500 ft (150 m) downstream at datum 0.44 ft (0.134 m) higher. June 24, 1974 to Apr. 9, 1978, at present site and datum.

REMARKS.--Records good. Diversions for irrigation of about 14,300 acres (57.9 km^2) above station. Station is below all Duncan Valley diversions.

AVERAGE DISCHARGE.--59 years (water years 1912-17, 1928-80), 191 ft^3/s (5.409 m^3/s), 138,400 acre-ft/yr (171 hm^3/yr); median of yearly mean discharges, 140 ft^3/s (3.96 m^3/s), 101,000 acre-ft/yr (120 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,000 ft^3/s (1,610 m^3/s) Dec. 19, 1978, gage height, 23.80 ft (7.254 m), from rating curve extended above 28,000 ft^3/s (790 m^3/s); minimum daily, 5 ft^3/s (0.14 m^3/s) Aug. 24, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 2,500 ft^3/s (71 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	1900	3,300	93.5	6.90	2.103
Feb. 21	1400	2,710	6.7	6.46	1.969
Aug. 14	0330	2,760	78.2	5.35	1.631
Sept. 10	0900	* 8,500	241	9.74	2.969

Minimum daily, 17 ft^3/s (0.48 m^3/s) Sept. 6, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	28	61	76	51	506	124	154	43	24	24	50
2	25	31	55	69	47	467	118	170	40	26	22	40
3	25	34	55	65	47	450	105	190	33	26	22	38
4	25	40	55	65	51	423	95	190	26	27	20	26
5	25	43	51	63	45	401	85	184	23	24	21	24
6	26	43	51	67	43	375	78	177	27	24	18	17
7	26	51	48	65	47	331	78	194	24	30	23	112
8	26	55	51	59	55	295	65	204	23	26	22	85
9	26	55	51	55	67	267	65	212	22	30	18	177
10	26	53	51	53	78	267	85	227	35	48	18	3430
11	26	51	51	51	87	267	110	219	147	33	22	1010
12	26	53	53	59	95	267	130	231	87	31	31	445
13	26	57	59	63	100	267	167	219	61	33	52	390
14	26	61	63	63	113	283	194	208	43	33	835	350
15	27	63	65	61	521	283	204	194	31	96	462	247
16	28	63	65	57	2910	283	187	177	28	47	336	184
17	28	63	63	48	2350	283	154	150	26	31	198	121
18	28	61	63	45	1660	279	141	135	23	27	135	85
19	28	59	63	45	1260	267	150	118	22	26	97	65
20	28	63	65	41	1420	263	160	115	22	26	78	61
21	30	65	67	43	2360	239	198	97	21	26	69	43
22	28	63	83	55	1860	235	235	69	21	26	65	31
23	27	67	76	51	1420	212	263	67	21	46	59	26
24	27	71	74	47	1150	208	304	69	20	41	211	17
25	27	71	71	57	974	194	318	71	20	26	173	47
26	27	71	78	61	810	180	308	78	21	26	80	57
27	27	74	85	59	671	177	283	85	22	26	147	51
28	28	65	85	61	603	167	243	80	23	23	108	45
29	30	57	83	59	544	167	198	65	23	23	83	41
30	30	55	80	57	---	150	170	59	23	22	76	33
31	28	---	83	51	---	144	---	47	---	22	60	---
TOTAL	835	1686	2004	1771	21439	8597	5015	4455	1001	975	3585	7348
MEAN	26.9	56.2	64.6	57.1	739	277	167	144	33.4	31.5	116	245
MAX	30	74	85	76	2910	506	318	231	147	96	835	3430
MIN	25	28	48	41	43	144	65	47	20	22	18	17
AC-FT	1660	3340	3970	3510	42520	17050	9950	8840	1990	1930	7110	14570

CAL YR 1979 TOTAL 147923.7 MEAN 405 MAX 5440 MIN 6.5 AC-FT 293400
WTR YR 1980 TOTAL 58711.0 MEAN 160 MAX 3430 MIN 17 AC-FT 116500

09442680 SAN FRANCISCO RIVER NEAR RESERVE, NM

LOCATION.--Lat 33°44'12", long 108°46'14", in NE¼NW¼SE¼ sec.35, T.6 S., R.19 W., Catron County, Hydrologic Unit 15040004, on left bank 1,300 ft (400 m) downstream from Rainbow Bridge Canyon, 1.7 mi (2.7 km) northwest of Reserve, and at mile 563.1 (096.0 km).

DRAINAGE AREA.--350 mi^2 (907 km^2), approximately.

PERIOD OF RECORD.--March 1959 to current year.

REVISED RECORDS.--WDR AZ-79-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 5,820 ft (1,774 m), from topographic map. Prior to Dec. 15, 1972, at site 1,800 ft (549 m) upstream at different datum.

REMARKS.--Records good. Possible minor regulation by Luna Lake, 27 mi (43 km) upstream. Diversions for irrigation of about 280 acres (1.1 km^2) above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 26.2 ft^3/s (0.742 m^3/s), 18,980 acre-ft/yr (23.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft^3/s (337 m^3/s) Oct. 20, 1972, gage height, 7.47 ft (2.277 m) in gage well, 8.05 ft (2.454 m), from outside floodmarks, site and datum then in use, from rating curve extended above 9,000 ft^3/s (255 m^3/s) on basis of velocity-area study; maximum gage height, 9.40 ft (2.865 m), Nov. 25, 1978, at present site; minimum discharge, 1.0 ft^3/s (0.028 m^3/s) Mar. 16, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, about 15 ft (4.6 m), as determined in 1962 from old floodmarks. Major floods of Nov. 26, 1905 and Dec. 3, 1906, exceeded 20,000 ft^3/s (566 m^3/s) at Alma (downstream). See WSP 1313.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 450 ft^3/s (12.7 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 20	0445	1,130	32.0	4.62	1.408
Aug. 24	2030	*2,160	61.2	5.40	1.646

Minimum discharge, 3.9 ft^3/s (0.11 m^3/s) Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	7.0	5.4	9.4	14	133	48	93	9.4	6.3	12	8.5
2	7.6	7.1	5.4	9.4	11	117	50	86	9.1	5.8	10	7.9
3	7.2	6.6	9.9	8.0	10	115	51	78	9.2	5.2	8.3	8.2
4	7.5	6.0	9.8	8.0	9.8	100	50	76	8.8	5.3	9.2	8.4
5	6.6	6.5	9.6	8.0	9.3	90	50	72	8.5	5.5	9.9	8.5
6	6.3	6.6	10	8.8	9.2	91	56	66	8.8	5.1	9.1	8.3
7	6.3	7.3	9.7	9.1	9.0	92	60	60	8.7	5.3	8.2	8.7
8	6.2	9.1	9.7	8.8	8.0	85	67	54	9.0	5.5	9.4	8.7
9	6.0	10	9.8	10	7.0	82	74	50	8.8	5.6	9.6	9.0
10	5.0	9.9	10	10	7.0	83	81	47	8.7	6.0	9.1	9.1
11	6.0	9.2	11	10	6.0	79	92	42	8.2	6.4	7.1	12
12	6.1	9.2	11	10	6.0	80	97	40	7.8	6.6	7.7	8.3
13	6.0	8.6	10	10	6.0	72	105	37	7.5	7.6	11	7.9
14	6.3	8.7	9.3	10	80	83	98	35	7.9	8.4	12	7.8
15	6.5	9.4	8.6	9.5	190	104	77	37	7.1	7.3	11	7.7
16	6.6	9.0	9.2	9.1	145	99	73	41	7.5	6.7	8.4	8.0
17	6.7	9.4	8.5	9.1	99	83	77	38	7.0	5.5	7.3	7.7
18	6.8	9.4	7.6	10	111	74	82	36	6.7	6.1	6.9	8.0
19	6.9	9.5	8.2	11	210	77	85	41	6.3	6.7	6.4	8.0
20	6.9	9.3	9.4	11	650	70	85	35	6.3	8.5	6.1	8.0
21	9.4	7.2	11	11	303	70	110	32	7.0	15	6.4	7.0
22	9.7	7.4	10	13	240	74	140	26	6.6	13	8.1	7.0
23	8.5	7.2	8.6	11	204	64	140	23	5.9	12	23	7.0
24	8.0	9.7	6.5	9.4	175	56	130	19	5.7	10	93	7.0
25	7.7	9.0	8.6	9.4	149	54	120	17	6.0	10	26	6.0
26	8.0	9.7	11	9.5	136	49	110	15	6.1	11	13	6.0
27	8.0	9.9	14	9.5	132	51	100	13	5.9	11	11	7.0
28	7.5	9.2	11	9.3	135	59	95	13	6.8	11	10	7.0
29	7.5	8.2	7.2	13	139	52	91	11	6.7	24	9.2	7.0
30	7.7	6.5	8.2	21	---	49	91	11	6.6	31	8.6	6.5
31	7.0	---	7.6	16	---	52	---	10	---	15	8.2	---
TOTAL	220.3	251.8	285.8	321.3	3210.3	2439	2585	1254	224.6	288.4	395.2	236.2
MEAN	7.11	8.39	9.22	10.4	111	78.7	86.2	40.5	7.49	9.30	12.7	7.87
MAX	9.7	10	14	21	650	133	140	93	9.4	31	93	12
MIN	5.0	6.0	5.4	8.0	6.0	49	48	10	5.7	5.1	6.1	6.0
AC-FT	437	499	567	637	6370	4840	5130	2490	445	572	784	469

CAL YR 1979 TOTAL 19980.7 MEAN 54.7 MAX 323 MIN 5.0 AC-FT 39630
WTR YR 1980 TOTAL 11711.9 MEAN 32.0 MAX 650 MIN 5.0 AC-FT 23230

09443000 SAN FRANCISCO RIVER NEAR ALMA, NM

LOCATION.--Lat 33°22'05", long 108°54'35", in SW¼SE¼ sec.4, T.11 S., R.20 W., Catron County, Hydrologic Unit 15040004, on right bank 1.2 mi (1.9 km) downstream from Alma, 4 mi (6 km) northwest of Glenwood, 6 mi (10 km) upstream from Whitewater Creek, and at mile 523.5 (842.3 km).

DRAINAGE AREA.--1,546 mi^2 (4,004 km^2).

PERIOD OF RECORD.--September 1904 to January 1914, fragmentary (see WSP 1313), January 1964 to current year. Prior to October 1911, published as "at Alma."

REVISED RECORDS.--WDR AZ-79-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 4,842 ft (1,476 m), from topographic map. Prior to Aug. 11, 1912, nonrecording gages at various sites, within 500 ft (150 m) of each other, 0.8 mi (1.3 km) upstream, at different datums. Aug. 11, 1912, to Feb. 2, 1914, nonrecording gage at approximately present site and datum. Jan. 10, 1964, to Nov. 1, 1972, at datum 3.00 ft (0.91 m) higher.

REMARKS.--Records good except those for August, which are poor. Diversions for irrigation of about 1,600 acres (6.5 km^2) above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1965-80), 77.7 ft^3/s (2.200 m^3/s), 56,290 acre-ft/yr (69.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,600 ft^3/s (867 m^3/s) Oct. 20, 1972, gage height, 18.16 ft (5.535 m), present datum, from floodmarks in well, from rating curve extended above 9,000 ft^3/s (255 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Major floods probably occurred Jan. 19 and Oct. 14, 1916, when discharges of 60,000 ft^3/s (1,700 m^3/s) were computed at Clifton, AZ.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	2000	*5,300	150	8.00	2.438
Aug. 8	unknown	1,820	51.5	5.60	1.707

Minimum, 0.50 ft^3/s (0.014 m^3/s) at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.0	10	16	115	284	89	111	14	2.2	1.3	2.5
2	1.0	1.0	8.6	17	100	254	88	106	13	1.9	4.4	2.0
3	1.0	.50	8.6	17	80	234	89	102	13	1.9	12	1.5
4	1.0	.50	9.8	16	68	234	89	95	13	1.9	11	1.1
5	1.0	.50	11	15	55	200	89	89	13	1.9	20	1.3
6	.50	.50	11	14	53	180	95	82	10	1.9	50	1.3
7	.50	.50	12	14	50	176	104	82	9.2	1.9	110	1.5
8	.50	.50	12	15	49	167	111	77	8.7	1.9	120	5.1
9	.50	4.0	12	16	46	155	128	66	7.1	1.9	35	27
10	.50	5.0	12	18	42	150	144	64	6.2	1.9	32	17
11	.50	6.2	12	19	41	157	156	57	5.5	1.9	30	14
12	.50	6.8	12	20	40	160	161	47	4.8	1.9	29	13
13	.50	6.8	12	20	40	157	164	47	4.8	1.9	27	6.6
14	.50	8.0	11	20	180	160	164	46	4.5	1.7	42	2.2
15	.50	8.6	12	20	1650	176	147	46	4.5	1.7	35	1.5
16	.50	9.2	10	21	1410	190	133	43	4.2	1.7	30	1.1
17	.50	9.8	9.8	21	692	183	131	44	3.6	1.7	26	1.1
18	1.0	11	9.8	21	554	173	136	38	2.9	1.9	23	1.3
19	1.0	12	9.8	21	641	163	144	40	2.9	1.9	22	1.3
20	1.0	12	12	22	2570	163	156	40	3.2	1.7	20	1.3
21	1.0	12	12	23	1310	157	167	33	2.2	1.7	20	1.3
22	1.0	9.8	14	26	976	157	191	33	2.6	1.7	20	1.3
23	1.0	8.0	16	28	801	157	191	29	2.2	1.7	21	1.1
24	.50	10	16	29	627	137	170	30	2.4	1.7	22	1.1
25	.50	11	15	27	456	100	158	23	2.6	1.7	32	1.1
26	1.0	12	14	27	351	91	150	22	2.6	1.5	60	1.1
27	1.0	12	19	26	310	89	150	18	2.4	1.5	50	1.1
28	1.0	12	24	26	302	89	133	16	2.4	1.5	30	.84
29	1.0	12	23	25	302	95	115	16	2.4	1.5	20	.84
30	1.0	11	18	87	---	88	111	16	2.4	1.5	10	.84
31	1.0	---	15	112	---	86	---	15	---	1.5	5.0	---
TOTAL	24.00	214.20	403.4	799	13911	4962	4054	1573	172.3	54.8	969.7	114.32
MEAN	.77	7.14	13.0	25.8	480	160	135	50.7	5.74	1.77	31.3	3.81
MAX	1.0	12	24	112	2570	284	191	111	14	2.2	120	27
MIN	.50	.50	8.6	14	40	86	88	15	2.2	1.5	1.3	.84
AC-FT	48	425	800	1580	27590	9840	8040	3120	342	109	1920	227

CAL YR 1979 TOTAL 57360.05 MEAN 157 MAX 3910 MIN .00 AC-FT 113800
WTR YR 1980 TOTAL 27251.72 MEAN 74.5 MAX 2570 MIN .50 AC-FT 54050

09444000 SAN FRANCISCO RIVER NEAR GLENWOOD, NM

LOCATION.--Lat 33°14'48", long 108°52'47", in NE¼NW¼ sec.23, T.12 S., R.20 W., Catron County, Hydrologic Unit 15040004, on left bank 0.2 mi (0.3 km) upstream from hot springs, 5 mi (8 km) south of Glenwood, 6 mi (10 km) downstream from Whitewater Creek, and at mile 511.5 (823.0 km).

DRAINAGE AREA.--1,653 mi^2 (4,281 km^2).

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1213: 1931, 1934, 1936-37, 1940-42, 1943-44(M), 1945-47. WSP 1283: Drainage area. WDR AZ-79-1: 1973(M), 1975-77(P), 1977.

GAGE.--Water-stage recorder. Altitude of gage is 4,560 ft (1,390 m), from topographic map; prior to Feb. 15, 1934, at site 4.5 mi (7.2 km) upstream at datum 98.82 ft (30.120 m) higher.

REMARKS.--Records good except those for February, which are poor. Diversions for irrigation of about 2,000 acres (8.1 km^2) above station. National Weather Service gage height telemeter at station. Water-quality records for the current year are published in Water Resources Data for New Mexico.

AVERAGE DISCHARGE.--53 years, 75.8 ft^3/s (2.147 m^3/s), 54,920 acre-ft/yr (67.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft^3/s (680 m^3/s), Oct. 20, 1972, gage height, 16.61 ft (5.063 m), from rating curve extended above 6,500 ft^3/s (184 m^3/s) on basis of slope-area measurements at gage heights 10.74 ft (3.274 m) and 15.6 ft (4.755 m); minimum, 1.5 ft^3/s (0.042 m^3/s) Aug. 6, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Major floods probably occurred Jan. 19 and Oct. 14, 1916, when discharges of 60,000 ft^3/s (1,700 m^3/s) or greater were computed for station at Clifton, AZ. On Nov. 26, 1905, a peak of 25,000 ft^3/s (708 m^3/s) was measured (by float-area method) at station at Alma (about 12 mi or 19 km upstream, drainage area, 1, 560 mi^2 or 4,040 km^2); a similar measurement of 21,000 ft^3/s (595 m^3/s) was made at the Alma station for peak of Dec. 3, 1906.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 800 ft^3/s (23 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	unknown	*4,190	119	7.66	2.335
Sept. 11	0400	2,290	64.9	5.68	1.731

Minimum, 16 ft^3/s (0.45 m^3/s) Oct. 2, July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	20	27	41	135	320	136	182	57	30	21	22
2	25	22	26	42	110	297	134	173	53	29	19	20
3	24	23	26	42	94	281	132	163	48	30	20	20
4	23	23	26	40	81	280	129	161	44	28	19	21
5	23	23	28	38	75	243	126	165	43	27	23	21
6	22	22	28	36	70	224	128	174	42	28	65	21
7	21	21	27	36	65	223	138	172	38	28	127	22
8	21	23	27	36	60	218	135	172	35	27	133	23
9	22	23	27	37	58	211	137	165	34	25	45	50
10	23	23	28	38	56	203	138	155	34	31	44	71
11	22	23	25	39	54	221	160	150	34	36	42	328
12	21	23	28	39	52	223	175	139	35	34	35	87
13	21	26	29	39	50	217	181	120	34	32	34	63
14	17	28	30	39	150	212	184	113	33	31	60	44
15	18	26	29	39	1700	223	176	113	32	29	45	37
16	19	25	28	39	1300	242	160	111	32	29	36	34
17	21	26	27	39	800	232	158	104	31	26	30	31
18	20	26	28	39	650	247	169	102	29	24	27	29
19	19	26	28	39	630	240	185	101	28	24	26	28
20	18	27	28	39	2500	251	199	106	27	25	24	28
21	23	29	31	42	1540	238	216	111	28	22	24	26
22	23	29	32	48	1020	230	249	119	28	23	23	22
23	21	25	32	50	815	228	249	120	26	20	25	21
24	20	21	32	51	580	217	233	109	27	21	28	26
25	20	23	32	51	460	188	212	93	29	21	52	23
26	20	29	33	51	385	156	195	83	30	20	79	23
27	22	27	40	49	342	146	191	76	28	18	61	22
28	23	23	45	47	327	142	180	69	28	21	44	23
29	22	24	45	47	324	151	178	63	29	22	30	26
30	22	27	45	61	---	150	184	59	30	23	27	25
31	22	---	42	131	---	137	---	57	---	22	25	---
TOTAL	664	736	959	1404	14483	6791	5167	3800	1026	806	1293	1237
MEAN	21.4	24.5	30.9	45.3	499	219	172	123	34.2	26.0	41.7	41.2
MAX	26	29	45	131	2500	320	249	182	57	36	133	328
MIN	17	20	25	36	50	137	126	57	26	18	19	20
AC-FT	1320	1460	1900	2780	28730	13470	10250	7540	2040	1600	2560	2450

CAL YR 1979 TOTAL 81011 MEAN 222 MAX 5310 MIN 17 AC-FT 160700
WTR YR 1980 TOTAL 38366 MEAN 105 MAX 2500 MIN 17 AC-FT 76100

09444200 BLUE RIVER NEAR CLIFTON, AZ

LOCATION.--Lat 33°17'27", long 109°11'44", in sec.6, T.2 S., R.31 E. (unsurveyed), Greenlee County, Hydrologic Unit 15040004, in Apache National Forest, on right bank 0.1 mi (0.2 km) downstream from county road crossing, 0.9 mi (1.4 km) upstream from Clear Creek, 8 mi (13 km) upstream from mouth, and 17 mi (27 km) northeast of Clifton.

DRAINAGE AREA.--506 mi^2 (1,311 km^2).

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,160 ft (1,268 m), from topographic map.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--12 years (water years 1969-80), 74.0 ft^3/s (2.096 m^3/s), 53,610 acre-ft/yr (66.1 hm^3/yr); median of yearly mean discharges, 40 ft^3/s (1.13 m^3/s) 29,000 acre-ft/yr (36 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s (850 m^3/s) Oct. 20, 1972, gage height, 22.56 ft (6.876 m), from rating curve extended above 960 ft^3/s (27 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 1.4 ft^3/s (0.040 m^3/s) Oct. 18-20, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 1,900 ft^3/s or 53.8 m^3/s on basis of slope-area measurement at gage height 22.56 ft or 6.876 m) and peak discharges above base of 800 ft^3/s (23 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	2015	*5,570	158	12.08	3.682
Feb. 20	0615	4,900	139	11.63	3.545
Aug. 7	1745	4,170	118	11.03	3.362
Sept. 6	0145	1,370	38.8	8.18	2.493

Minimum daily, 2.5 ft^3/s (0.07 m^3/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	6.8	9.2	24	174	391	141	224	45	8.2	12	18
2	6.8	6.7	8.2	23	138	347	142	198	41	6.4	34	17
3	6.0	6.6	8.0	21	108	339	139	187	38	5.8	47	17
4	4.9	5.4	8.0	20	86	362	139	186	34	4.8	159	17
5	5.2	5.7	8.2	20	73	295	161	193	31	4.5	145	17
6	4.9	6.1	8.3	20	66	273	196	204	28	4.5	208	261
7	3.7	6.4	8.5	19	63	274	243	214	26	5.8	295	70
8	3.0	19	7.9	19	63	260	270	215	25	4.2	82	47
9	3.0	13	7.8	19	62	243	293	212	24	3.6	66	27
10	3.0	9.2	7.9	21	58	237	324	203	22	5.0	57	47
11	3.0	8.0	8.2	25	52	382	369	184	21	5.0	54	55
12	3.0	8.0	8.3	42	48	406	357	167	19	10	79	36
13	3.0	8.1	7.9	38	54	360	312	147	17	10	51	27
14	3.0	8.1	8.6	33	705	345	260	128	15	12	54	21
15	3.0	8.3	9.2	53	3040	355	243	126	14	8.0	54	19
16	3.0	8.4	9.3	57	1960	345	260	119	13	5.2	39	19
17	3.0	8.4	9.4	45	1000	311	294	112	12	3.4	35	18
18	4.0	8.6	9.4	62	722	290	325	110	11	3.0	34	16
19	5.0	8.0	8.9	87	1370	284	348	126	10	2.9	33	15
20	6.0	8.5	8.9	72	3600	255	362	123	9.0	2.5	31	15
21	6.0	8.5	10	61	1730	237	394	126	8.0	3.2	31	13
22	6.0	7.8	17	77	1370	244	439	126	7.0	45	31	15
23	6.0	7.6	16	68	960	231	390	127	7.0	50	31	11
24	6.0	7.5	13	54	714	206	328	116	6.0	16	81	9.9
25	6.0	7.5	13	49	570	188	275	105	6.0	12	185	9.3
26	6.0	6.9	60	43	481	170	232	91	6.0	9.0	113	9.3
27	6.0	6.9	152	39	427	169	195	78	6.0	14	90	8.8
28	6.0	7.1	51	37	407	169	190	68	6.0	17	66	8.8
29	6.0	8.2	33	36	410	159	215	59	6.0	20	45	9.3
30	6.0	9.3	27	214	---	144	236	49	6.3	12	24	8.8
31	6.6	---	25	224	---	142	---	46	---	9.4	21	---
TOTAL	149.0	244.6	587.1	1622	20511	8413	8072	4369	519.3	322.4	2287	882.2
MEAN	4.81	8.15	18.9	52.3	707	271	269	141	17.3	10.4	73.8	29.4
MAX	6.8	19	152	224	3600	406	439	224	45	50	295	261
MIN	3.0	5.4	7.8	19	48	142	139	46	6.0	2.5	12	8.8
AC-FT	296	485	1160	3220	40680	16690	16010	8670	1030	639	4540	1750

CAL YR 1979	TOTAL	56488.2	MEAN 155	MAX 2600	MIN 3.0	AC-FT	112000
WTR YR 1980	TOTAL	47978.6	MEAN 131	MAX 3600	MIN 2.5	AC-FT	95170

GILA RIVER BASIN

09444500 SAN FRANCISCO RIVER AT CLIFTON, AZ

LOCATION.--Lat 33°02'58", long 109°17'43", in SW¼SE¼ sec.30, T.4 S., R.30 E., Greenlee County, Hydrologic Unit 15040004, on downstream side of right pier at Railroad Boulevard Bridge (U.S. Highway 666), at Clifton, 9.9 mi (15.9 km) upstream from mouth.

DRAINAGE AREA.--2,766 mi^2 (7,164 km^2).

PERIOD OF RECORD.--October 1910 to March 1911, July 1911 to June 1912, September 1912, November 1912 to March 1913, May 1913 to July 1918, July 1927 to current year. Monthly discharge only for some periods, published in WSP 1313. Published as "San Francisco River at dam above Clifton" in 1911 and under both names in 1912.

REVISED RECORDS.--WSP 1049: 1911, 1913-15, 1917. WSP 1283: Drainage area. WSP 1313: 1927-30(M), 1932(M), 1934(M). WRD Ariz. 1972: 1917(M).

Gage.--Water-stage recorder. Datum of gage is 3,436.16 ft (1,047.342 m) National Geodetic Vertical Datum of 1929. See WSP 1713 or 1733 for history of changes prior to Apr. 7, 1959. Apr. 7, 1959, to Mar. 23, 1961, at site 1,140 ft (347 m) downstream at datum 5.37 ft (1.637 m) lower. Since July 18, 1980, supplementary water-stage recorder 0.4 mi (0.6 km) downstream on right bank at same datum.

REMARKS.--Records good. Diversions for mining, municipal use, and for irrigation of about 2,700 acres (10.9 km^2) above station.

AVERAGE DISCHARGE.--56 years (water years 1914-15, 1917, 1928-80) 201 ft^3/s (5.692 m^3/s), 145,600 acre-ft/yr (180 hm^3/yr); median of yearly mean discharges, 130 ft^3/s (3.68 m^3/s), 94,200 acre-ft/yr (116 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,000 ft^3/s (1,810 m^3/s) Oct. 20, 1972, gage height, 17.0 ft (5.18 m), from high-water mark, from rating curve extended above 30,000 ft^3/s (850 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 6.1 ft^3/s (0.173 m^3/s) June 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 2,000 ft^3/s (57 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	0030	*9,900	280	7.30	2.225	Sept. 11	1130	2,500	70.8	4.70	1.433
Feb. 20	2030	7,850	222	6.80	2.073						

Minimum daily, 31 ft^3/s (0.878 m^3/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	39	55	97	350	955	300	425	121	53	44	58
2	33	45	56	95	322	854	296	400	117	56	39	51
3	36	46	56	91	283	750	288	365	112	55	45	46
4	40	48	55	89	246	830	279	360	103	53	60	39
5	42	50	55	87	220	694	283	350	97	52	117	41
6	35	50	55	85	206	617	305	390	95	55	126	265
7	38	51	52	83	192	580	345	405	95	62	350	129
8	39	52	47	83	199	580	400	415	95	55	459	91
9	37	59	52	85	206	526	415	405	95	47	196	81
10	36	58	55	87	189	496	445	385	90	65	126	183
11	37	55	56	91	176	617	485	370	90	68	101	711
12	38	53	58	101	164	750	556	355	90	65	136	283
13	37	53	58	114	158	673	550	305	90	89	97	164
14	37	53	58	112	1300	652	502	271	90	85	124	131
15	37	56	59	112	4540	638	465	258	90	63	139	105
16	36	55	59	126	6390	645	450	258	85	59	103	91
17	33	55	59	126	2760	604	455	235	85	50	74	78
18	33	55	60	121	2060	568	485	220	80	48	59	66
19	33	55	60	147	2150	538	532	224	80	46	53	62
20	36	55	60	152	5540	514	502	239	75	51	41	59
21	40	56	65	144	5200	485	617	239	75	50	36	52
22	45	56	69	144	3460	465	701	246	70	48	35	50
23	47	56	73	155	2700	465	708	258	70	81	40	47
24	46	58	73	147	2040	445	638	239	65	89	74	44
25	45	56	73	142	1590	410	562	220	65	56	239	46
26	42	56	74	136	1310	385	490	199	60	51	182	46
27	42	56	304	129	1220	365	420	185	60	42	216	46
28	41	58	147	124	1080	355	380	161	55	44	142	45
29	40	55	110	119	1020	345	370	152	55	47	112	45
30	37	55	99	159	---	322	415	134	55	47	87	45
31	35	---	97	400	---	305	---	129	---	45	66	---
TOTAL	1184	1605	2309	3883	47271	17428	13639	8797	2505	1777	3718	3200
MEAN	38.2	53.5	74.5	125	1630	562	455	284	83.5	57.3	120	107
MAX	47	59	304	400	6390	955	708	425	121	89	459	711
MIN	31	39	47	83	158	305	279	129	55	42	35	39
AC-FT	2350	3180	4580	7700	93760	34570	27050	17450	4970	3520	7370	6350

CAL YR 1979 TOTAL 170644 MEAN 468 MAX 17500 MIN 31 AC-FT 338500
WTR YR 1980 TOTAL 107316 MEAN 293 MAX 6390 MIN 31 AC-FT 212900

GILA RIVER BASIN

09445000 WILLOW CREEK DIVERSION FROM BLACK RIVER, NEAR MORENCI, AZ

LOCATION.--Lat 33°24'46", long 109°43'08", in SW¼ sec.23, T.1 N., R.25 E. (unsurveyed), Graham County, Hydrologic Unit 15040005, in San Carlos Indian Reservation, on left bank just downstream from end of diversion pipeline, 3.6 mi (5.8 km) northeast of Point of Pines, 5.0 mi (8.0 km) southeast of pumping plant on Black River, and 29 mi (47 km) northwest of Morenci.

PERIOD OF RECORD.--April 1945 to current year.

GAGE.--Water-stage recorder and steel-edged rectangular weir. Datum of gage is 5,957.16 ft (1,815.742 m) National Geodetic Vertical Datum of 1929. Prior to June 26, 1946, at end of pipeline at that time, 3.5 mi (5.6 km) upstream at datum about 50 ft (15 m) higher.

REMARKS.--Records excellent. The entire flow consists of Black River (head of Salt River) water which is pumped into headwater of Willow Creek (tributary of Eagle Creek) for industrial and municipal supply in vicinity of Morenci.

AVERAGE DISCHARGE.--35 years, 10.9 ft^3/s (0.309 m^3/s), 7,900 acre-ft/yr (9.74 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft^3/s (0.79 m^3/s) May 18, 19, 21-26, 1970; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	16	16	19	6.2	22	23	23	24	21	23	23
2	23	16	16	19	5.8	22	23	23	24	23	23	23
3	21	12	16	20	6.2	22	23	23	25	24	23	23
4	21	15	16	19	13	23	23	23	22	24	22	21
5	22	16	16	19	22	23	23	23	23	24	23	21
6	23	16	16	19	23	23	23	23	22	23	23	22
7	23	16	16	19	23	23	23	23	23	23	22	22
8	23	15	16	19	23	23	23	23	24	24	23	23
9	23	16	16	20	23	23	23	23	24	23	23	23
10	23	16	16	17	23	23	23	23	24	23	20	15
11	23	16	16	16	23	23	23	23	24	24	19	10
12	23	16	16	16	23	23	23	23	24	23	19	15
13	23	16	16	16	23	23	24	22	22	23	19	22
14	21	14	16	16	13	23	24	22	24	24	19	23
15	22	16	16	14	.00	23	24	23	24	24	19	23
16	23	16	16	13	.00	23	24	23	21	24	19	13
17	23	16	20	11	11	23	23	23	21	24	19	14
18	23	16	19	11	8.8	23	23	23	23	24	19	22
19	23	16	19	11	.00	23	23	23	21	23	17	23
20	23	14	19	11	.00	23	23	23	23	20	18	23
21	23	15	18	11	.00	23	23	23	12	10	18	23
22	23	16	19	7.7	.00	23	22	15	11	10	19	23
23	23	16	20	6.0	.00	23	22	22	22	10	19	23
24	23	16	22	5.8	.00	23	23	23	11	10	19	23
25	23	16	23	5.8	.00	23	23	23	.00	17	19	23
26	23	16	23	5.8	.00	23	24	23	.00	20	21	23
27	23	16	22	5.8	.00	23	24	23	.00	22	23	23
28	23	16	20	5.8	15	23	23	16	.00	23	23	23
29	23	16	22	5.6	21	23	23	8.7	.00	22	23	23
30	23	16	21	5.6	---	23	23	21	8.0	22	23	23
31	18	---	20	6.2	---	23	---	24	---	23	23	---
TOTAL	700	469	565	396.1	306.00	710	694	679.7	526.00	654	642	634
MEAN	22.6	15.6	18.2	12.8	10.6	22.9	23.1	21.9	17.5	21.1	20.7	21.1
MAX	23	16	23	20	23	23	24	24	25	24	23	23
MIN	18	12	16	5.6	.00	22	22	8.7	.00	10	17	10
AC-FT	1390	930	1120	786	607	1410	1380	1350	1040	1300	1270	1260

CAL YR 1979 TOTAL 7470.80 MEAN 20.5 MAX 26 MIN .00 AC-FT 14820
WTR YR 1980 TOTAL 6975.80 MEAN 19.1 MAX 25 MIN .00 AC-FT 13840

09447000 EAGLE CREEK ABOVE PUMPING PLANT, NEAR MORENCI, AZ

LOCATION.--Lat 33°04'16", long 109°27'10", in SE¼NE¼ sec.22, T.4 S., R.28 E., Greenlee County, Hydrologic Unit 15040005, on left bank 3 mi (5 km) upstream from Phelps Dodge Corp. pumping plant, 5 mi (8 km) west of Morenci, and 13 mi (21 km) upstream from mouth.

DRAINAGE AREA.--613 mi^2 (1,588 km^2).

PERIOD OF RECORD.--April 1944 to current year.

REVISED RECORDS.--WSP 1850-C: 1966.

GAGE.--Water-stage recorder, Parshall flume and weir. Datum of gage is 3,701 ft (1,128 m) unadjusted. Apr. 1944 to Jan. 30, 1978, at site 1,000 ft (305 m) downstream at datum 6.37 ft (1.942 m) lower. Since Nov. 15, 1952, supplementary water-stage recorder 900 ft (274 m) downstream on right bank at datum 6.37 ft (1.942 m) lower. Aug. 23, 1950, to Nov. 15, 1952, supplementary water-stage recorder at site 1,100 ft (335 m) downstream at different datum.

REMARKS.--Records good below 2.6 ft (0.8 m) gage height and poor above. Diversions above station for irrigation of about 500 acres (2.02 km^2), mostly above Willow Creek. Water from Black River was pumped into Eagle Creek basin, 52 mi (84 km) upstream from this station, for 12 months (see sta 09445000) and water was pumped from wells into Eagle Creek near Double Circle Ranch below Willow Creek for 8 months. The monthly quantities pumped are shown in table below. Diversion by pumping for industrial and municipal use in and near Morenci and Clifton are made from Eagle Creek, 3 mi (5 km) downstream from this station and from San Francisco River near Clifton. Monthly quantities diverted are shown in the table below; 96 percent of the pumpage was from Eagle Creek.

AVERAGE DISCHARGE (unadjusted).--36 years, 52.0 ft^3/s (1.473 m^3/s), 37,670 acre-ft/yr (46.4 hm^3/yr); median of yearly mean discharges, 36 ft^3/s (1.02 m^3/s), 26,100 acre-ft/yr (32 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s (694 m^3/s) Dec. 18, 1978, gage height, 12.5 ft (3.81 m), at supplementary gage, on basis of slope-area measurement of peak flow; minimum, 3.2 ft^3/s (0.091 m^3/s) July 1, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 3,700 ft^3/s or 100 m^3/s on basis of slope-area measurement at gage height 12.5 ft or 3.81 m at supplementary gage) and peak discharges above base of 800 ft^3/s (23 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	(a) Gage height (ft)	(a) Gage height (m)
Feb. 15	2300	*9,000	255	8.30	2.530
Feb. 20	2000	4,440	126	6.02	1.835

Minimum daily, 22 ft^3/s (0.623 m^3/s) Sept. 20-25.
a At supplementary gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	38	37	42	183	250	91	74	44	26	28	25
2	33	35	36	42	174	241	92	72	46	25	25	25
3	33	34	36	41	168	234	90	69	46	24	23	24
4	34	34	36	41	120	247	88	68	45	25	131	23
5	33	32	37	40	84	253	85	67	44	24	80	25
6	33	34	37	40	76	243	83	67	42	25	50	41
7	33	34	37	40	69	244	83	67	45	35	36	30
8	34	40	37	40	72	252	84	68	44	36	32	40
9	34	41	37	40	68	244	88	72	45	34	32	32
10	34	37	38	42	59	235	90	71	46	42	38	46
11	34	35	40	45	51	284	92	73	45	43	46	51
12	34	34	39	46	44	476	97	74	45	95	32	48
13	34	35	40	49	44	436	94	72	45	100	35	30
14	35	35	40	49	1740	409	88	71	44	55	75	28
15	35	35	40	46	5010	359	83	70	44	32	50	27
16	34	34	39	46	4410	250	77	68	43	26	35	28
17	34	34	40	48	2170	200	76	66	42	24	29	28
18	34	35	42	46	1210	170	79	65	41	23	28	26
19	34	35	41	59	1200	169	84	63	40	23	26	23
20	34	36	43	99	3280	162	88	61	41	30	26	22
21	38	36	47	97	2840	146	91	59	40	28	25	22
22	39	35	49	94	2090	136	99	59	41	27	24	22
23	37	35	47	98	1100	129	101	61	36	32	28	22
24	37	36	47	82	616	125	98	55	32	27	30	22
25	36	36	48	58	500	119	94	57	35	26	42	22
26	35	36	55	49	400	110	88	58	36	26	39	26
27	35	36	52	42	350	109	79	56	30	26	28	28
28	36	36	49	38	300	111	74	54	28	26	27	28
29	36	36	45	35	260	101	70	54	26	56	26	28
30	37	36	43	148	---	94	72	52	26	70	26	28
31	37	---	42	425	---	92	---	37	---	46	26	---
TOTAL	1079	1065	1296	2107	28688	6630	2598	1980	1207	1137	1178	870
MEAN	34.8	35.5	41.8	68.0	989	214	86.6	63.9	40.2	36.7	38.0	29.0
MAX	39	41	55	425	5010	476	101	74	46	100	131	51
MIN	33	32	36	35	44	92	70	37	26	23	23	22
AC-FT	2140	2110	2570	4180	56900	13150	5150	3930	2390	2260	2340	1730
(†)	532	537	587	506	0	14	494	643	815	99	0	0
(‡)	1880	1920	1960	2030	1540	1940	1860	1880	1620	1100	1180	1180

CAL YR 1979 TOTAL 62428 MEAN 171 MAX 9680 MIN 28 AC-FT 123800 † 4300 ‡ 20,740
WTR YR 1980 TOTAL 49835 MEAN 136 MAX 5010 MIN 22 AC-FT 98850 † 4230 ‡ 20,090

† Pumpage, in acre-feet, into Eagle Creek, from Eagle Creek Wells.
‡ Pumpage, in acre-feet, to Clifton and Morenci, from San Francisco River and Eagle Creek.

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, AZ

LOCATION.--Lat 32°52'06", long 109°30'38", in SE¼NE¼ sec.31, T.6 S., R.28 E., Graham County, Hydrologic Unit 15040005, on left bank 0.6 mi (1.0 km) downstream from intake of Brown Canal, 8 mi (13 km) northeast of Solomon, and 17 mi (27 km) downstream from San Francisco River. Records include flow of Brown Canal, which is measured 2,000 ft (610 m) downstream from intake.

DRAINAGE AREA.--7,896 mi^2 (20,451 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1914 to current year. Monthly discharge only for some periods, published in WSP 1313. Prior to October 1932 and October 1940 to September 1949 published as "near Solomonsville" and October 1932 to October 1933 and May 1935 to September 1940 as "below Bonita Creek near Solomonsville."

REVISED RECORDS.--WSP 1059: 1914, 1916-17, 1923(M), 1924-25, 1927, 1929-31(M). WSP 1179: 1915, 1918-19(M). WSP 1313: 1934. WSP 1733: 1923.

GAGE.--Water-stage recorder. Datum of gage is 3,059.92 ft (932.664 m) National Geodetic Vertical Datum of 1929. Prior to July 8, 1980, at datum 4.96 ft (1.512 m) higher. See WSP 1733 for history of changes prior to Jan. 1, 1941. Supplementary water-stage recorder and Parshall flume on Brown Canal.

REMARKS.--Records good. Records show water reaching head of Safford Valley. Diversions above station for mining, municipal use, and for irrigation of about 17,500 acres (70.8 km^2), much of it by pumping from ground water.

COOPERATION.--Record for Brown Canal furnished by Gila Water Commissioner.

AVERAGE DISCHARGE.--66 years, 458 ft^3/s (12.97 m^3/s), 331,800 acre-ft/yr (409 hm^3/yr); median of yearly mean discharges, 320 ft^3/s (9.1 m^3/s), 232,000 acre-ft/yr (286 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 100,000 ft^3/s (2,830 m^3/s) Jan. 19, 1916 and Dec. 19, 1978; maximum gage height, 15.89 ft (4.843 m) Jan. 19, 1916, from rating curve extended above 52,000 ft^3/s (1,470 m^3/s) on basis of slope-area measurement of peak flow of Dec. 19, 1978; minimum, 11 ft^3/s (0.31 m^3/s) June 25, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 4,000 ft^3/s (113 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	0300	*25,300	716	8.95	2.728
Feb. 20	2000	19,200	544	8.00	2.438
Sept. 10	1100	8,570	243	11.1	3.38

Minimum daily, 50 ft^3/s (1.42 m^3/s) July 27, 28, Aug. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	84	134	196	784	2010	551	610	230	90	70	115
2	79	82	136	190	657	1830	551	610	225	90	60	113
3	75	86	146	190	578	1810	526	610	215	85	50	110
4	76	88	156	192	493	1920	502	610	203	85	50	102
5	80	93	160	203	415	1720	466	610	180	85	154	96
6	79	94	148	206	383	1340	490	610	170	90	170	173
7	76	98	137	206	372	1140	526	591	176	99	251	277
8	75	104	135	210	382	1270	575	603	170	66	332	268
9	74	109	133	206	401	1090	587	603	155	58	273	198
10	72	115	135	207	369	957	626	578	155	65	186	3100
11	72	113	137	215	358	996	669	578	181	116	160	1000
12	73	109	137	221	340	2940	753	566	173	120	156	851
13	73	104	144	234	331	1930	723	529	135	272	166	553
14	73	111	144	240	1660	1370	723	493	135	164	427	460
15	73	113	146	242	10400	1300	696	420	135	120	383	333
16	73	118	146	247	17100	1300	696	460	133	110	287	268
17	75	120	146	245	8410	1260	669	400	122	100	194	225
18	71	120	145	252	5480	1150	696	340	121	80	150	196
19	71	118	145	246	4750	1100	709	305	120	70	124	170
20	71	120	145	276	12100	1090	723	330	115	150	108	150
21	79	102	152	287	12300	1080	783	355	115	130	98	140
22	82	111	157	290	8710	990	827	345	110	120	92	119
23	84	111	162	297	7360	880	906	329	106	120	87	114
24	84	113	163	297	5780	801	872	329	93	120	110	111
25	84	115	170	293	3380	714	842	309	88	114	230	106
26	86	115	167	282	2520	685	798	282	88	70	235	130
27	87	132	257	268	2180	671	753	277	93	50	226	114
28	87	141	253	259	2130	672	682	278	88	50	237	111
29	85	136	227	259	2130	658	590	260	88	60	174	105
30	84	136	211	256	---	645	610	250	88	60	142	95
31	84	---	204	744	---	567	---	240	---	80	121	---
TOTAL	2417	3311	4978	7956	112253	37886	20122	13710	4206	3089	5503	9903
MEAN	78.0	110	161	257	3871	1222	671	442	140	99.6	178	330
MAX	87	141	257	744	17100	2940	906	610	230	272	427	3100
MIN	71	82	133	190	331	567	466	240	88	50	50	95
AC-FT	4790	6570	9870	15780	222700	75150	39910	27190	8340	6130	10920	19640

CAL YR 1979	TOTAL	374482	MEAN	1026	MAX	24300	MIN 70	AC-FT 742800
WTR YR 1980	TOTAL	225334	MEAN	616	MAX	17100	MIN 50	AC-FT 446900

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1965 to September 1975, January 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1965 to September 1975.
WATER TEMPERATURES: January 1965 to September 1975.
SUSPENDED-SEDIMENT DISCHARGE: February 1965 to September 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
17...	1130	120	1450	8.3	19.0	4.4	10.2	--	7	280	110
NOV											
06...	1300	92	1300	8.2	12.0	3.8	10.2	22	7	250	92
DEC											
06...	1230	160	1150	7.8	10.0	18	13.0	--	2	240	57
JAN											
09...	1500	180	1040	8.4	10.0	16	11.4	--	3	220	37
FEB											
07...	0830	400	690	7.6	10.0	20	11.8	15	30	180	31
MAR											
14...	0945	1500	410	8.4	11.0	34	10.0	--	14	120	9
APR											
07...	1130	563	620	8.3	16.0	17	8.9	11	2	160	20
MAY											
07...	1300	590	520	8.3	21.0	18	8.2	47	12	140	15
JUN											
09...	1200	160	940	8.4	26.0	2.1	7.7	7	4	220	22
JUL											
17...	1400	90	1200	8.3	32.0	200	--	45	360	230	62
AUG											
14...	1400	300	550	7.4	26.0	17000	5.4	--	K3000	96	0
SEP											
12...	1000	1100	370	7.4	21.0	16000	7.1	--	21000	96	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT											
17...	84	17	190	4.9	11	170	93	310	1.4	38	866
NOV											
06...	76	15	150	4.1	9.9	160	88	260	1.3	37	779
DEC											
06...	70	15	150	4.2	8.0	180	79	220	1.4	35	706
JAN											
09...	64	14	130	3.8	7.0	180	78	180	1.3	36	618
FEB											
07...	51	13	84	2.7	4.9	150	51	110	.9	37	433
MAR											
14...	33	9.0	32	1.3	2.8	110	37	33	.7	32	272
APR											
07...	46	11	62	2.1	4.4	140	47	69	.9	.6	763
MAY											
07...	39	9.2	56	2.1	4.0	120	42	63	1.0	35	322
JUN											
09...	66	14	110	3.2	7.6	200	60	180	1.3	38	581
JUL											
17...	68	15	150	4.3	9.8	170	76	240	1.9	42	729
AUG											
14...	28	6.4	68	3.0	6.7	110	47	56	.8	24	325
SEP											
12...	28	6.3	30	1.3	3.9	140	23	36	.8	23	228

K Based on non-ideal colony count.

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT										
17...	847	1.18	4	.00	--	--	--	.030	.09	.07
NOV										
06...	734	1.06	16	.04	.45	.52	2.3	.050	.15	.05
DEC										
06...	687	.96	71	.16	.52	.67	3.0	.500	1.5	.08
JAN										
09...	620	.84	54	.25	.92	1.2	5.1	.090	.28	.08
FEB										
07...	443	.59	53	.21	.48	.68	3.0	.110	.34	.09
MAR										
14...	246	.37	139	.17	.46	.63	2.8	.240	.74	.14
APR										
07...	326	1.04	49	.13	2.2	2.4	10	.170	.52	.00
MAY										
07...	322	.44	47	.11	.36	.46	2.0	.150	.46	.11
JUN										
09...	597	.79	10	.02	.44	.51	2.3	.070	.21	.04
JUL										
17...	705	.99	564	.03	1.1	1.4	6.1	.430	1.3	.00
AUG										
14...	309	.44	25300	1.2	47	47	210	28.000	86	.07
SEP										
12...	235	.31	12700	.00	16	17	76	6.800	21	.07

DATE	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT										
17...	.21	8	400	200	170	1	0	8	250	<10
NOV										
06...	.15	5	400	160	150	0	4	8	230	<10
DEC										
06...	.25	4	400	140	140	1	0	18	1400	<10
JAN										
09...	.25	5	200	120	110	0	0	13	1200	60
FEB										
07...	.28	3	<100	90	70	0	10	16	1400	<10
MAR										
14...	.43	2	<100	80	40	1	0	100	3600	<10
APR										
07...	.00	3	<100	490	70	1	0	23	1100	<10
MAY										
07...	.34	3	100	100	40	0	0	26	1200	10
JUN										
09...	.12	4	<100	120	130	0	10	16	300	10
JUL										
17...	.00	5	200	880	150	0	30	92	13000	<10
AUG										
14...	.21	27	†4000	210	140	10	†380	†1500	300000	220
SEP										
12...	.21	10	†2000	100	40	1	†210	630	190000	190

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)
OCT										
17...	2	50	20	.0	0	0	<10	2.0	.00	1
NOV										
06...	4	40	20	.1	0	0	50	2.9	.00	0
DEC										
06...	7	70	20	.0	0	0	40	12	.00	3
JAN										
09...	7	70	10	.1	0	0	50	2.1	.00	1
FEB										
07...	3	80	8	.1	0	0	30	4.9	.00	3
MAR										
14...	11	140	1	.0	0	0	70	6.3	.00	2
APR										
07...	3	60	2	.0	0	0	50	4.3	.00	5
MAY										
07...	2	50	2	.0	0	0	20	3.6	.00	0
JUN										
09...	0	20	8	.1	0	0	40	14	.00	3
JUL										
17...	14	440	3	.0	0	0	90	6.4	.00	2
AUG										
14...	†840	25000	10	1.3	2	8	2000	390	.01	3
SEP										
12...	†330	15000	10	.6	2	2	750	180	.00	1

< Actual value is known to be less than value shown.
† Value verified.

09449000 DIVERSIONS FROM GILA RIVER IN SAFFORD VALLEY, AZ

LOCATION.--Safford Valley lies along Gila River in Graham County, extending from vicinity of Bonita Creek on the east to San Carlos Indian Reservation on the west. Eleven canals and one pump, listed in the following table in downstream order, divert water from Gila River for irrigation in the valley. Intake of Consolidated Brown Canal, at upper end of the valley, is 0.6 mi (1.0 km) upstream from station on Gila River near Solomon (09448500). Intake of Colvin-Jones Canal, at the lower end, is 25.8 mi (41.5 km) upstream from station at Calva (09466500). Record of canals obtained below wasteways used for regulation.

PERIOD OF RECORD.--January 1936 to September 1980 (discontinued), records of combined monthly diversions and annual diversions by each canal; records of monthly diversion 1914-15 and records of monthly and daily diversion 1920-31 for all canals except Colvin-Jones; records for Brown Canal also for water year 1931-32. Tidwell Canal was published as Michelana Canal in records for 1914-15 and 1920-31 Brown Canal and Tidwell Canal combined as Consolidated Brown Canal after Mar. 1, 1976. Records of daily discharge since 1936 published in reports of Gila Water Commissioner.

GAGES.--Water-stage recorders and Parshall flumes.

REMARKS.--Record shows total diversions unadjusted for return flow. Decreed area for irrigation in Safford Valley is 32,512 acres (132 km^2). Water was issued for 32,306 acres (131 km^2) during calendar year 1979. Water obtained by pumping from ground water for irrigation in the valley is not included.

COOPERATION.--Records furnished by Gila Water Commissioner.

ANNUAL DIVERSIONS, IN ACRE-FEET, TO EACH CANAL DURING CALENDAR YEAR 1979 AND WATER YEAR 1980

	Canal	Calendar year 1979	Water year 1980
09449500.	Consolidated Brown	3,500	4,160
09452000.	Fourness	0	0
09452500.	San Jose	17,640	18,690
09453000.	Montezuma	18,840	18,680
09453500.	Union	22,970	26,220
09458000.	Graham	10,980	12,430
09459500.	Smithville	7,420	8,930
09461500.	Dodge-Nevada	4,620	7,970
09462500.	Curtis	8,380	8,740
09463500.	Ft. Thomas	11,450	12,530
09464000.	Colvin-Jones	0	0
09464500.	T. D. Burton	0	0
	Total	105,800	118,360

COMBINED MONTHLY DISCHARGE OF CANALS DIVERTING FROM GILA RIVER IN SAFFORD VALLEY, AZ, DURING WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Discharge, in cubic feet per second			Diversions in acre-feet
	Maximum	Minimum	Mean	
October	58.0	11.1	46.0	2,830
November	77.8	0.8	37.8	2,250
December	216	30.6	136	8,380
CAL YR 1979	441	0	146	105,810
January	221	38.2	151	9,290
February	138	2.3	56.6	3,260
March	574	73.1	373	22,930
April	395	309	372	22,090
May	355	239	300	18,420
June	254	70.6	152	9,050
July	102	46.4	71.9	4,420
August	204	56.3	125	7,680
September	227	72.5	130	7,750
WTR YR 1980	574	0.8	163	118,360

GILA RIVER BASIN

09457000 SAN SIMON RIVER NEAR SOLOMON, AZ

LOCATION.--Lat 32°48'06", long 109°38'19", in NW¼NE¼ sec.25, T.7 S., R.26 E., Graham County, Hydrologic Unit 15040006, 1.0 mi (1.6 km) southwest of Solomon and 2.2 mi (3.5 km) upstream from mouth.

DRAINAGE AREA.--2,192 mi^2 (5,677 km^2).

PERIOD OF RECORD.--June 1931 to September 1932, May 1935 to current year. Published as "San Simon Creek near Solomonsville" prior to October 1949 and as "San Simon Creek near Solomon" October 1949 to September 1961.

GAGE.--Water-stage recorder. Datum of gage is 2,960.15 ft (902.254 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Records do not include waste water passing station from San Jose Canal, which diverts from Gila River. Irrigation of about 34,000 acres (138 km^2) above station, mostly by pumping from ground water. Floodflows are partly regulated by flood-control detention structures on main stream and tributaries; combined maximum capacity in excess of 10,500 acre-ft (12.9 hm^3).

AVERAGE DISCHARGE.--46 years, 11.8 ft^3/s (0.334 m^3/s), 8,550 acre-ft/yr (10.5 hm^3/yr); median of yearly mean discharges, 8.4 ft^3/s (0.24 m^3/s) 6,100 acre-ft/yr (7.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,500 ft^3/s (779 m^3/s) Aug. 9, 1931, gage height, 19.0 ft (5.79 m), by slope-area measurement of peak flow; no flow for most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 484 ft^3/s (13.7 m^3/s) Aug. 13, 1830 hours, gage height, 6.75 ft (2.057 m), no peak above base of 2,500 ft^3/s (71 m^3/s); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	313
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	200
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	21	25
14	.00	.00	.00	.00	27	.00	.00	.00	.00	.00	3.4	.00
15	.00	.00	.00	.00	27	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	15	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	15.00	54.00	.00	.00	.00	.00	.00	24.40	551.00
MEAN	.000	.000	.000	.48	1.86	.000	.000	.000	.000	.000	.79	18.4
MAX	.00	.00	.00	15	27	.00	.00	.00	.00	.00	21	313
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	30	107	.00	.00	.00	.00	.00	48	1090

CAL YR 1979 TOTAL 971.00 MEAN 2.66 MAX 238 MIN .00 AC-FT 1930
WTR YR 1980 TOTAL 644.40 MEAN 1.76 MAX 313 MIN .00 AC-FT 1280

09466500 GILA RIVER AT CALVA, AZ
(National stream-quality accounting network station)

LOCATION.--Lat 33°11'08", long 110°13'10", in SW¼ sec.8, T.3 S., R.21 E. (unsurveyed), Graham County, Hydrologic Unit 15040005, in San Carlos Indian Reservation, on right upstream abutment of Southern Pacific Railroad bridge at head of San Carlos Reservoir, 2.0 mi (3.2 km) west of Calva.

DRAINAGE AREA.--11,470 mi^2 (29,710 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,517.29 ft (767.270 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1954, and Aug. 25, 1958, to Dec. 31, 1962, at datum 2.52 ft (0.768 m) lower. Oct. 1, 1954, to Aug. 24, 1958, at datum 5.52 ft (1.682 m) lower. Dec. 31, 1962, to Oct. 20, 1972, at site 530 ft (162 m) downstream at datum 3.65 ft (1.113 m) lower. Oct. 20, 1972, to Sept. 30, 1974, supplementary gage at bridge on U.S. Highway 70, 6.2 mi (10.0 km) upstream at datum 2,560.19 ft (780.346 m) NGVD.

REMARKS.--Records good except those above 1,000 ft^3/s (24 m^3/s), which are poor. Diversion above station for irrigation of about 69,000 acres (279 km^2), metallurgical treatment of ores, and municipal uses.

AVERAGE DISCHARGE.--51 years, 291 ft^3/s (8.241 m^3/s), 210,800 acre-ft/yr (260 hm^3/yr); median of yearly mean discharges, 200 ft^3/s (5.66 m^3/s), 145,000 acre-ft/yr (180 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft^3/s (2,830 m^3/s) Dec. 19, 1978, gage height, 15.20 ft (4.633 m); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1914, probably in excess of 100,000 ft^3/s (2,830 m^3/s) Jan. 20, 1916, determined on basis of peak discharge at stations near Solomon and at Kelvin.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 3,000 ft^3/s (85 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 16	1700	*20,600	583	10.30	3.139	Sept. 11	0530	6,300	178	8.72	2.658
Feb. 21	0900	20,400	578	8.55	2.606						

Minimum daily, 0.50 ft^3/s (0.014 m^3/s) Aug. 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	10	79	107	476	1900	352	402	109	17	6.0	4.1
2	8.2	12	76	100	686	1800	345	410	96	14	4.0	3.2
3	7.8	12	78	91	610	1700	341	395	80	12	2.0	2.1
4	7.4	14	79	84	528	1600	297	392	60	10	1.0	1.6
5	7.4	14	80	84	462	1500	294	388	50	9.3	.50	1.5
6	7.0	14	76	80	437	1400	287	370	41	8.5	.50	1.5
7	6.7	14	76	78	399	1300	278	370	41	9.6	.50	2.5
8	6.0	15	74	79	374	1200	267	352	42	11	1.0	2.8
9	5.8	16	73	78	345	1100	267	352	42	8.9	2.0	3.6
10	5.8	16	69	76	310	1000	272	338	40	7.8	2.0	5.2
11	5.5	16	66	69	300	1000	290	352	41	6.7	3.0	1850
12	5.2	16	63	68	264	1200	316	345	38	6.0	3.4	1100
13	5.2	17	59	69	255	1300	341	313	38	8.2	5.0	668
14	6.3	17	58	73	316	1100	356	300	38	7.4	10	466
15	6.3	20	57	74	2060	1000	377	278	37	5.8	8.5	190
16	6.0	24	48	69	12100	900	395	249	33	5.8	12	80
17	5.5	28	48	78	10500	800	388	235	33	4.7	24	70
18	5.8	32	48	97	6560	700	374	221	33	3.9	24	60
19	6.0	38	49	102	4860	615	374	209	30	3.6	19	50
20	6.0	44	47	98	6890	615	392	197	29	3.4	14	40
21	10	49	44	102	17000	596	428	180	24	2.8	9.3	35
22	8.9	49	45	120	8000	555	449	178	22	3.0	6.7	30
23	8.5	55	50	144	7000	497	479	172	22	3.6	12	27
24	8.5	64	49	151	6500	484	484	168	21	3.4	9.6	24
25	8.5	58	50	161	5700	488	488	157	21	3.6	8.9	22
26	8.5	60	64	155	3500	470	492	151	21	2.3	6.3	21
27	8.9	63	73	136	2500	475	475	149	19	1.5	5.5	20
28	9.3	66	59	125	2000	453	445	140	17	1.1	6.0	19
29	10	69	59	118	2000	410	428	127	16	1.0	6.7	19
30	9.6	73	86	109	---	392	413	122	15	5.5	7.8	17
31	9.6	---	107	102	---	366	---	114	---	9.3	6.0	---
TOTAL	228.4	995	1989	3077	102932	28916	11184	8126	1149	200.7	227.20	4836.1
MEAN	7.37	33.2	64.2	99.3	3549	933	373	262	38.3	6.47	7.33	161
MAX	10	73	107	161	17000	1900	492	410	109	17	24	1850
MIN	5.2	10	44	68	255	366	267	114	15	1.0	.50	1.5
AC-FT	453	1970	3950	6100	204200	57350	22180	16120	2280	398	451	9590

CAL YR 1979 TOTAL 336406.00 MEAN 922 MAX 21600 MIN 5.2 AC-FT 667300
WTR YR 1980 TOTAL 163860.40 MEAN 448 MAX 17000 MIN .50 AC-FT 325000

GILA RIVER BASIN

09466500 GILA RIVER AT CALVA, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT											
17...	1000	6.0	6000	9.8	14.0	1.2	10.8	140	110	240	1100
NOV											
09...	1000	16	6500	8.1	12.0	1.7	11.6	80	73	62	1200
DEC											
06...	0845	69	4010	7.8	6.0	3.2	12.4	22	77	440	660
JAN											
09...	1000	78	4600	7.9	10.0	16	13.2	20	17	25	820
FEB											
06...	1400	300	1500	8.2	13.0	120	11.2	30	110	390	310
MAR											
13...	1200	E1300	--	--	--	320	--	44	65	1300	160
APR											
08...	1030	280	2950	8.3	16.0	39	11.2	50	120	330	510
MAY											
07...	0900	400	200	8.6	21.0	40	8.5	17	76	1100	320
JUN											
10...	1400	44	5600	8.2	32.0	3.8	8.2	9	45	28	740
JUL											
17...	1100	5.0	5800	8.1	28.0	4.8	--	120	95	20	940
AUG											
14...	0930	10	5400	8.2	27.0	100	9.4	--	3000	600	760
SEP											
10...	1030	4.0	5800	8.4	27.0	--	8.0	91	--	--	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT											
17...	910	310	91	900	12	19	240	620	1700	1.6	37
NOV											
09...	930	320	96	1000	13	19	260	690	1600	1.6	36
DEC											
06...	390	180	51	810	14	11	270	390	1200	1.7	37
JAN											
09...	580	220	65	680	10	12	240	470	1100	1.7	37
FEB											
06...	110	67	23	250	6.2	5.4	200	160	330	1.1	41
MAR											
13...	37	43	12	95	3.3	3.9	120	72	110	.8	31
APR											
08...	260	140	39	420	8.1	11	250	300	630	1.6	35
MAY											
07...	110	90	24	300	7.3	7.7	210	190	380	1.5	37
JUN											
10...	530	190	64	810	13	19	210	530	1300	1.7	33
JUL											
17...	750	250	76	910	13	16	190	680	1500	1.3	4.2
AUG											
14...	580	200	63	910	14	5.9	180	560	1400	1.5	19
SEP											
10...	--	--	--	--	--	--	--	--	1500	--	--

E Estimated.

09466500 GILA RIVER AT CALVA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)
OCT											
17...	3990	3820	5.43	0	--	.04	.05	.04	.06	1.1	.54
NOV											
09...	4220	3920	5.74	7	--	.20	.06	.09	.07	.67	1.0
DEC											
06...	2280	2850	3.10	69	--	.81	.06	.03	.07	2.4	.59
JAN											
09...	2830	2730	3.85	40	--	.93	.05	.00	.06	.85	.84
FEB											
06...	996	1020	1.35	248	--	.62	.16	.09	.19	.68	.59
MAR											
13...	459	442	.62	--	2670	.41	.12	.00	.15	1.6	.44
APR											
08...	1880	1730	2.56	--	1870	1.2	.12	.02	.15	.29	.91
MAY											
07...	1140	1160	1.55	--	1780	.68	.00	.00	.00	1.4	.42
JUN											
10...	3120	3080	4.24	--	3200	.36	.12	.00	.15	1.6	.74
JUL											
17...	3670	3550	4.99	--	3800	.05	.03	.12	.04	.87	.55
AUG											
14...	3290	3270	4.47	--	3610	.00	.02	.04	.02	1.6	.40
SEP											
10...	--	--	--	--	3670	--	--	--	--	--	--

DATE	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)
OCT											
17...	1.1	.52	.58	1.1	.62	5.0	.030	.09	.010	.01	.03
NOV											
09...	.73	.00	1.1	.93	1.3	4.1	.020	.06	.010	.01	.03
DEC											
06...	2.5	1.9	.62	3.3	1.4	15	.100	.31	.020	.01	.03
JAN											
09...	.90	.06	.84	1.8	1.8	8.1	.080	.25	.040	.04	.12
FEB											
06...	.84	.16	.68	1.4	1.3	6.3	.340	1.0	.080	.08	.25
MAR											
13...	1.7	1.3	.44	2.2	.85	9.6	2.000	6.1	.120	.14	.43
APR											
08...	.41	.00	.93	1.7	2.1	7.6	.320	.98	.100	.00	.00
MAY											
07...	1.4	.98	.42	2.1	1.1	9.2	.290	.89	.090	.12	.37
JUN											
10...	1.7	.96	.74	2.0	1.1	8.9	.060	.18	.000	.01	.03
JUL											
17...	.90	.23	.67	.96	.72	4.3	.080	.25	.010	.01	.03
AUG											
14...	1.6	1.2	.44	1.6	.44	7.1	.240	.74	.010	.01	.03
SEP											
10...	--	--	--	--	--	--	--	--	--	.00	.00

GILA RIVER BASIN

09466500 GILA RIVER AT CALVA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
OCT 17...	4	--	--	--	890	--	0	--	--	--	--
NOV 09...	6	4	600	600	990	--	1	0	8	8	1
DEC 06...	5	--	400	--	660	--	1	--	10	--	--
JAN 09...	6	--	300	--	740	--	1	--	10	--	--
FEB 06...	5	5	100	60	260	--	1	2	20	0	7
MAR 13...	4	--	500	--	190	--	0	--	30	--	--
APR 08...	5	--	200	--	640	--	1	--	0	--	--
MAY 07...	5	3	300	70	320	280	0	<1	0	0	9
JUN 10...	4	--	200	--	920	--	0	--	0	--	--
JUL 17...	5	--	200	--	170	--	0	--	0	--	--
AUG 14...	5	5	300	300	†1200	--	0	0	0	0	2
SEP 10...	4	--	200	--	1000	--	1	--	20	--	--

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
OCT 17...	--	4	--	170	10	2	--	†540	450	.2	--
NOV 09...	0	8	4	670	10	3	0	300	260	.1	.0
DEC 06...	--	1	--	340	40	6	--	140	100	.0	--
JAN 09...	--	6	--	800	20	3	--	160	90	.1	--
FEB 06...	<3	80	1	11000	680	11	0	580	50	.1	.1
MAR 13...	--	300	--	34000	20	29	--	1200	30	.0	--
APR 08...	--	34	--	5200	20	7	--	170	10	.0	--
MAY 07...	<3	75	6	10000	<10	7	1	320	3	.0	.0
JUN 10...	--	21	--	720	40	3	--	50	20	.0	--
JUL 17...	--	12	--	160	30	3	--	170	20	.0	--
AUG 14...	0	50	4	8500	50	16	1	450	90	.1	.1
SEP 10...	--	18	--	340	30	5	--	240	200	.0	--

< Actual value is known to be less than value shown.
† Value verified.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)
OCT											
17...	--	--	0	--	0	--	<10	--	8.1	--	--
NOV											
09...	10	2	0	1	0	0	<10	10	5.6	6.6	.2
DEC											
06...	--	--	1	--	0	--	40	--	11	--	--
JAN											
09...	--	--	1	--	1	--	30	--	8.0	--	--
FEB											
06...	26	3	0	0	0	0	110	20	7.4	6.1	1.5
MAR											
13...	--	--	1	--	0	--	160	--	14	--	--
APR											
08...	--	--	1	--	0	--	60	--	5.0	--	--
MAY											
07...	23	2	1	1	0	0	60	<3	8.0	15	1.0
JUN											
10...	--	--	1	--	0	--	80	--	15	--	--
JUL											
17...	--	--	1	--	0	--	60	--	9.2	--	--
AUG											
14...	15	3	1	1	0	0	80	50	19	11	--
SEP											
10...	--	--	1	--	0	--	50	--	10	--	--

DATE	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
17...	.00	†11	--	--	--	--	--	--	26	.42	21
NOV											
09...	.00	0	16000	--	--	--	--	--	19	.82	58
DEC											
06...	.00	4	--	118	114	192	20.8	2.58	87	16	79
JAN											
09...	.00	2	--	--	--	--	--	--	64	13	79
FEB											
06...	.00	†12	--	--	--	--	--	--	772	625	51
MAR											
13...	.00	4	4900	--	--	--	--	--	1540	--	--
APR											
08...	.00	3	--	--	--	--	--	--	855	646	14
MAY											
07...	.00	0	5200	--	--	--	--	--	583	630	--
JUN											
10...	.00	2	37000	--	--	--	--	--	69	8.3	--
JUL											
17...	.00	2	11000	126	119	1389	5.04	.000	19	.26	--
AUG											
14...	.00	0	80000	--	--	--	--	--	186	5.0	--
SEP											
10...	.00	†6	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.
† Value verified.

09466500 GILA RIVER AT CALVA, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 9,79		MAR 13,80		MAY 7,80		JUN 10,80	
TIME	1000		1200		0900		1400	
TOTAL CELLS/ML	16000		4900		5200		37000	
DIVERSITY: DIVISION	1.4		1.5		0.9		0.6	
.CLASS	1.4		1.5		0.9		0.6	
..ORDER	1.7		2.2		1.4		1.3	
...FAMILY	2.1		2.9		2.7		1.4	
....GENUS	2.1		3.0		3.0		1.5	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	120	1	55	1	42	1	310	1
....CHODATELLA	--	-	--	-	170	3	--	-
....DICTYOSPHAERIUM	--	-	110	2	460	9	1200	3
....OOCYSTIS	--	-	330	7	--	-	310	1
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	420	8	--	-
....TETRASTRUM	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	310	1
....CHLAMYDOMONAS	--	-	330	7	340	6	620	2
....CHLOROGONIUM	--	-	--	-	--	-	--	-
....PLATYMONAS	120	1	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...CHAETOCERACEAE								
....CHAETOCEROS	--	-	--	-	--	-	--	-
...CUSCINODISCACEAE								
....CYCLOTELLA	1400	9	820#	17	42	1	6200#	17
....MELOSIRA	--	-	--	-	210	4	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	1000	6	27	1	130	2	--	-
...CYMBELLACEAE								
....AMPHORA	--	-	--	-	42	1	--	-
...DIATOMACEAE								
....DIATOMA	--	-	--	-	42	1	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	110	2	42	1	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	120	1	160	3	84	2	--	-
...MERIDIONACEAE								
....MERIDION	--	-	55	1	--	-	--	-
...NAVICULACEAE								
....ANOMOEONEIS	--	-	--	-	84	2	--	-
....ENTOMONEIS	--	-	27	1	170	3	310	1
....NAVICULA	700	4	82	2	170	3	310	1
....PINNULARIA	--	-	27	1	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	2600#	16	360	7	2300#	44	26000#	71
...SURIRELLACEAE								
....SURIRELLA	--	-	660	14	420	8	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	9000#	55	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	42	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	--	-	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	1000	6	--	-	--	-	940	3
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	1600#	34	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUTREPTIA	120	1	--	-	--	-	--	-
....TRACHELOMONAS	--	-	55	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 17,80		AUG 14,80		SEP 10,80	
TIME	1100		1100		1030	
TOTAL CELLS/ML	11000		80000		35000	
DIVERSITY: DIVISION	1.0		1.0		0.6	
.CLASS	1.0		1.0		0.6	
..ORDER	2.1		2.0		1.3	
...FAMILY	2.5		2.5		1.4	
....GENUS	2.7		2.5		1.4	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....GOLENKINIA	410	4	--	-	--	-
....MICRACTINIUM	490	4	2600	3	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	82	1	2600	3	--	-
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	650	6	--	-	--	-
....SCENEDESMUS	--	-	4600	6	--	-
....TETRASTRUM	330	3	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	240	2	3600	4	540	2
....CHLOROGONIUM	240	2	--	-	270	1
....PLATYMONAS	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...CHAETOCERACEAE						
....CHAETOCEROS	--	-	2600	3	--	-
...COSCINODISCACEAE						
....CYCLOTELLA	2000#	17	28000#	35	23000#	65
....MELOSIRA	--	-	510	1	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...CYMBELLACEAE						
....AMPHORA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...MERIDIONACEAE						
....MERIDION	--	-	--	-	--	-
...NAVICULACEAE						
....AMPHIPLEURA	--	-	--	-	--	-
....ENTOMONEIS	490	4	--	-	--	-
....NAVICULA	--	-	2100	3	270	1
....PINNULARIA	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	4200#	36	9200	12	7300#	21
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	2400#	21	--	-	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	3800	11
....CYLINDROSPERMUM	--	-	25000#	31	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUTREPTIA	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09468500 SAN CARLOS RIVER NEAR PERIDOT, AZ

LOCATION.--Lat 33°19'16", long 110°26'54", in NW¼ sec.30, T.1 S., R.19 E. (unsurveyed), Gila County, Hydrologic Unit 15040007, in San Carlos Indian Reservation, on right bank 750 ft (229 m) downstream from highway crossing, 0.8 mi (1.3 km) north of Peridot, and 2.4 mi (3.9 km) south of San Carlos.

DRAINAGE AREA.--1,027 mi^2 (2,660 km^2).

PERIOD OF RECORD.--August 1910 to January 1911 (gage heights only), April 1914 to July 1915, August to September 1915 (monthly discharge only), October 1929 to current year. Prior to October 1929 published as "at San Carlos."

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder since Apr. 26, 1914. Datum of gage is 2,578.90 ft (786.049 m) National Geodetic Vertical Datum of 1929. See WSP 1713 or 1733 for history of changes prior to Feb. 1, 1942. Feb. 1, 1942, to Mar. 4, 1969, at site 750 ft (229 m) upstream at different datums. Mar. 5, 1969, to Aug. 13, 1970, at site 300 ft (91 m) upstream at datum 0.88 ft (0.268 m) higher. Supplementary water-stage recorder Dec. 21, 1967, to July 2, 1968, at site 4 mi (6 km) downstream at datum in use prior to Feb. 1, 1942; since Jan. 31, 1979, at U.S. Highway to bridge 1.8 mi (2.9 km) downstream at datum 2,542.29 ft (774.890 m) Arizona Highway Department datum.

REMARKS.--Records fair except those for periods of no gage-height record and those above 1,000 ft^3/s (28 m^3/s), which are poor. Diversions above station for irrigation of about 600 acres (2.43 km^2). Small inflow from sewage treatment system about 2 mi (3.2 km) upstream. Flow regulated to some extent since June 15, 1979, by Talkalai Reservoir; capacity of reservoir is about 6,000 acre-ft (7.4 hm^3).

AVERAGE DISCHARGE.--51 years (water years 1930-80), 52.2 ft^3/s (1.478 m^3/s), 37,820 acre-ft/yr (46.6 hm^3/yr); median of yearly mean discharges, 29 ft^3/s (0.82 m^3/s), 21,000 acre-ft/yr (26 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,600 ft^3/s (1,150 m^3/s) Mar. 14, 1941, gage height, 11.4 ft (3.47 m), site and datum then in use, from rating curve extended above 23,000 ft^3/s (650 m^3/s) on basis of rate of change in storage in San Carlos Reservoir; maximum gage height 14.8 ft (4.5 m), Dec. 22, 1965, site and datum then in use; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 2,200 ft^3/s (62 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	1730	*12,300	348	9.8	2.99	Aug. 24	1130	2,300	65.1	7.35	2.240
Feb. 20	unknown	11,200	317	a8.0	2.44						

Minimum daily, 1.6 ft^3/s (0.045 m^3/s) Oct. 3, Nov. 13, 15, 28, 29, Dec. 14.
a From floodmarks.
b At supplementary gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.8	7.2	10	295	65	50	70	10	4.0	2.0	119
2	2.2	3.8	8.7	7.2	288	60	50	70	10	4.0	2.0	119
3	1.6	3.8	12	13	245	60	40	70	10	4.0	3.0	114
4	2.2	3.0	12	5.7	190	40	40	70	10	4.0	3.0	114
5	2.2	3.0	13	5.7	142	40	40	70	10	4.0	4.0	137
6	3.0	3.0	13	8.7	114	30	40	70	10	3.0	4.0	132
7	3.8	3.0	5.7	8.7	88	20	40	70	8.0	3.0	5.0	132
8	3.0	3.0	10	10	78	20	45	70	8.0	3.0	6.0	106
9	3.0	3.0	10	10	68	30	50	70	8.0	3.0	6.0	68
10	3.0	3.0	8.7	10	58	70	50	70	8.0	3.0	7.0	43
11	3.8	5.0	2.2	12	41	130	70	70	8.0	3.0	7.0	36
12	3.8	4.7	3.8	12	36	590	70	70	8.0	3.0	8.0	30
13	3.8	1.6	2.2	10	43	100	70	60	6.0	3.0	7.0	32
14	3.8	4.7	1.6	10	3580	70	75	50	6.0	3.0	20	27
15	3.0	1.6	5.7	12	8120	60	75	40	6.0	3.0	7.0	27
16	3.0	9.9	7.2	8.7	5500	50	75	35	6.0	3.0	6.0	30
17	3.0	5.7	8.7	8.7	3500	50	75	30	6.0	3.0	6.0	30
18	3.0	5.7	7.2	16	1300	70	80	25	6.0	3.0	6.0	30
19	3.8	7.2	5.7	1430	2800	60	80	25	6.0	4.0	6.0	30
20	3.8	7.2	7.2	882	6000	70	80	20	6.0	4.0	5.0	30
21	4.7	5.7	4.7	432	5000	60	80	20	6.0	4.0	5.0	30
22	4.7	5.7	13	308	4000	60	80	20	6.0	4.0	5.0	30
23	3.0	4.7	13	195	1000	60	80	20	5.0	3.0	5.0	30
24	5.7	4.7	13	119	350	55	80	20	5.0	3.0	630	30
25	3.8	4.7	13	71	150	55	80	15	5.0	3.0	315	30
26	3.0	4.7	16	49	140	50	75	15	5.0	3.0	185	30
27	3.0	2.2	16	32	130	50	75	15	5.0	3.0	92	30
28	3.0	1.6	15	23	120	50	75	15	4.0	3.0	99	30
29	3.0	1.6	13	18	110	50	70	10	4.0	2.0	124	30
30	3.8	3.0	13	550	---	50	70	10	4.0	2.0	119	30
31	3.8	---	10	456	---	50	---	10	---	2.0	119	---
TOTAL	103.3	124.3	291.5	4743.4	43486	2275	1960	1295	205.0	99.0	1818.0	1686
MEAN	3.33	4.14	9.40	153	1500	73.4	65.3	41.8	6.83	3.19	58.6	56.2
MAX	5.7	9.9	16	1430	8120	590	80	70	10	4.0	630	137
MIN	1.6	1.6	1.6	5.7	36	20	40	10	4.0	2.0	2.0	27
AC-FT	205	247	578	9410	86250	4510	3890	2570	407	196	3610	3340

CAL YR 1979 TOTAL 36493.40 MEAN 100 MAX 6340 MIN .10 AC-FT 72380
WTR YR 1980 TOTAL 58086.50 MEAN 159 MAX 8120 MIN 1.6 AC-FT 115200

NOTE.--No gage-height record Feb. 17 to Aug. 23.

09469000 SAN CARLOS RESERVOIR AT COOLIDGE DAM, AZ

LOCATION.--Lat 33°10'32", long 110°31'38", in NW¼ sec.17, T.3 S., R.18 E. (unsurveyed), Gila County, Hydrologic Unit 15040005, in San Carlos Indian Reservation, at right intake tower of Coolidge Dam on Gila River.

DRAINAGE AREA.--12,886 mi^2 (33,375 km^2).

REVISED RECORDS.--WSP 1049: 1929, 1934, 1937-38. WSP 1283: Drainage area.

PERIOD OF RECORD.--November 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 15, 1937, series of stakes with tops at known elevations for reference points on right bank about 1,000 ft (300 m) upstream from dam. Jan. 15, 1937, to Dec. 31, 1947, water-stage recorder at present site at datum 0.72 ft (0.219 m) lower.

REMARKS.--Reservoir is formed by concrete multiple-dome dam. Dam completed Oct. 25, 1928; storage began Nov. 15, 1928. Usable capacity (from capacity table computed by San Carlos Irrigation District, based on an estimate of sediment deposited since 1966; used since Jan. 1, 1979) 1,070,000 acre-ft (1,320 hm^3) between elevations 2,382.63 ft (726.226 m), sill of lowest outlet gate, and 2,519.4 ft (767.91 m) revised, crest of spillway. No dead storage. Figures given herein represent usable contents. Reservoir is used to store water for irrigation of San Carlos project and for power development, dependent on irrigation demands. Spill over Coolidge Dam because of capacity storage has occurred April 22 to May 5, 1979, Feb. 24 to Mar. 13, 1980.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,090,000 acre-ft (1,340 hm^3) Feb. 26 to Mar. 6, 1980; maximum elevation observed, 2,520.3 ft (768.19 m) Feb. 28; no usable contents at times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,090,000 acre-ft (1,340 hm^3) Feb. 26 to Mar. 6; maximum elevation observed, 2,520.3 ft (768.19 m) Feb. 28; minimum, 704,000 acre-ft (868 hm^3) Sept. 29, 30, elevation, 2,497.3 ft (761.18 m).

Capacity table (elevation, in feet, and usable contents, in acre-ft)

2,490	601,000	2,510	905,000
2,500	744,000	2,521	1,100,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	840000	819000	812000	794000	812000	1090000	1030000	1000000	966000	896000	816000	738000
2	838000	819000	811000	795000	812000	1090000	1030000	1000000	964000	893000	812000	736000
3	838000	817000	809000	795000	812000	1090000	1030000	1000000	962000	891000	809000	735000
4	837000	817000	809000	795000	814000	1090000	1030000	1000000	962000	888000	808000	732000
5	837000	817000	808000	794000	816000	1090000	1030000	1000000	961000	885000	805000	730000
6	835000	817000	808000	794000	816000	1090000	1020000	998000	961000	883000	803000	729000
7	835000	817000	808000	794000	816000	1080000	1020000	998000	959000	882000	800000	726000
8	834000	817000	808000	794000	816000	1080000	1020000	998000	957000	878000	798000	724000
9	832000	817000	808000	794000	816000	1080000	1020000	996000	957000	876000	795000	723000
10	832000	817000	806000	794000	816000	1080000	1020000	996000	956000	873000	794000	721000
11	830000	817000	806000	792000	816000	1080000	1020000	992000	945000	870000	791000	721000
12	830000	817000	806000	790000	816000	1080000	1020000	992000	943000	868000	787000	723000
13	828000	817000	805000	790000	817000	1070000	1020000	990000	941000	867000	783000	723000
14	828000	816000	805000	790000	828000	1070000	1010000	989000	938000	863000	781000	721000
15	828000	816000	803000	790000	867000	1070000	1010000	989000	936000	862000	778000	720000
16	827000	816000	803000	790000	907000	1070000	1010000	989000	934000	858000	775000	718000
17	825000	816000	802000	790000	934000	1060000	1010000	989000	931000	855000	772000	717000
18	825000	816000	802000	794000	952000	1060000	1010000	987000	929000	853000	769000	716000
19	824000	816000	800000	797000	973000	1060000	1010000	987000	926000	850000	767000	714000
20	824000	816000	800000	800000	1000000	1050000	1010000	985000	924000	847000	764000	713000
21	822000	816000	800000	800000	1030000	1050000	1010000	984000	921000	845000	761000	711000
22	822000	814000	798000	800000	1060000	1040000	1010000	984000	917000	842000	758000	710000
23	820000	812000	797000	802000	1070000	1040000	1000000	982000	915000	838000	756000	710000
24	820000	812000	797000	803000	1080000	1040000	1000000	980000	914000	837000	754000	708000
25	820000	812000	797000	803000	1080000	1040000	1000000	978000	910000	834000	753000	707000
26	820000	812000	795000	803000	1090000	1040000	1000000	976000	908000	832000	753000	707000
27	820000	812000	795000	805000	1090000	1040000	1000000	973000	905000	828000	750000	705000
28	820000	812000	794000	805000	1090000	1040000	1000000	973000	903000	827000	748000	705000
29	820000	812000	794000	805000	1090000	1040000	1000000	971000	901000	824000	745000	704000
30	819000	812000	794000	808000	---	1040000	1000000	970000	898000	820000	742000	704000
31	819000	---	794000	811000	---	1040000	---	968000	---	817000	741000	---
MAX	840000	819000	812000	811000	1090000	1090000	1030000	1000000	966000	896000	816000	738000
MIN	819000	812000	794000	790000	812000	1040000	1000000	968000	898000	817000	741000	704000
†	2504.8	2504.4	2503.2	2504.3	2520.2	2517.3	2515.5	2513.6	2509.6	2504.8	2499.8	2497.3
‡	-21000	-7000	-18000	+17000	+279000	-50000	-40000	-32000	-70000	-81000	-76000	-37000

CAL YR 1979 MAX 1070000 MIN 544000 ‡ +257000
WTR YR 1980 MAX 1090000 MIN 704000 ‡ -136000

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

09469500 GILA RIVER BELOW COOLIDGE DAM, AZ

LOCATION.--Lat 33°10'10", long 110°31'50", in SW¼ sec.17, T.3 S., R.18 E. (unsurveyed), Pinal County, Hydrologic Unit 15050100, on left bank 2,200 ft (670 m) downstream from Coolidge Dam.

DRAINAGE AREA.--12,886 mi^2 (33,375 km^2).

PERIOD OF RECORD.--July to October 1899, April 1900 to March 1902, July to September 1902, December 1902 to December 1904; January to May 1905 (gage heights only); June to November 1905; August 1910 to February 1911 (gage heights only); April 1914 to current year. Published as "at San Carlos" 1899-1911, as "near San Carlos" 1914-26, and as "at Coolidge Dam" 1927-38.

REVISED RECORDS.--WSP 629: 1915-16. WSP 1049: 1899-1904. WSP 1149: 1917(M), 1921, 1922(M), 1923, 1924(M). WSP 1283: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 2,309.33 ft (703.884 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 5, 1911, nonrecording gage at various sites and datums upstream from mouth of San Carlos River. Apr. 29, 1914, to Mar. 8, 1937, water-stage recorder at various sites within 1 mi (1.6 km) upstream from present site at different datums. Since Mar. 27, 1979, supplementary water-stage recorder at site on left bank 1,000 ft (305 m) upstream at datum 2,309.5 ft (703.94 m) NGVD.

REMARKS.--Records excellent except those below 10 ft^3/s (0.28 m^3/s) and those above 1,700 ft^3/s (48.1 m^3/s), which are fair. Flow regulated by San Carlos Reservoir since Nov. 15, 1928. (See sta 09469000.) Record includes flow of Warm Springs, which enters between dam and gage. Large diversions above San Carlos Reservoir for irrigation, metallurgical treatment of ore, and municipal supply; about 69,000 acres (279 km^2) of land was irrigated, a considerable portion by pumping from ground water.

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir).--68 years (water years 1901, 1904, 1915-80) 361 ft^3/s (10.22 m^3/s), 261,500 acre-ft/yr (322 hm^3/yr); median of yearly mean discharges, 220 ft^3/s (6.23 m^3/s), 159,000 acre-ft/yr (200 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--1914-28: Maximum discharge, 130,000 ft^3/s (3,680 m^3/s) Jan. 20, 1916, estimated on basis of peak discharge near Solomon and at Kelvin; no flow at times.
1928-80: Maximum discharge, 2,700 ft^3/s (76.5 m^3/s) Mar. 10, 1980, gage height, 8.95 ft (2.728 m), at supplementary gage; no flow at times prior to 1938; minimum daily since 1938, 0.40 ft^3/s (0.011 m^3/s) in several years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,540 ft^3/s (71.9 m^3/s) Mar. 11, 12; minimum daily, 5.4 ft^3/s (0.153 m^3/s) Nov. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	414	8.0	128	175	72	1780	879	698	802	1120	1200	1060
2	386	7.3	128	177	72	1750	883	618	802	1130	1200	922
3	374	7.3	130	180	73	1700	927	584	829	1160	1210	926
4	365	7.3	173	197	74	1760	1000	584	882	1170	1220	1030
5	340	7.3	277	230	106	1720	1000	590	926	1170	1210	1030
6	324	7.3	295	223	188	1760	1000	621	954	1170	1210	1010
7	316	7.3	306	232	202	2200	990	673	990	1150	1210	596
8	308	7.3	324	253	236	2400	954	680	982	1110	1180	998
9	295	7.3	327	255	303	2200	938	680	974	1120	1200	998
10	265	7.3	327	248	303	2450	942	680	974	1140	1170	986
11	248	7.3	327	220	303	2540	942	680	998	1190	1200	930
12	265	6.6	346	152	319	2540	954	680	1040	1190	1210	446
13	288	6.6	360	152	349	2510	950	680	1060	1190	1200	549
14	303	6.6	365	152	338	2500	925	684	1080	1190	1210	859
15	303	6.6	388	152	200	2500	633	687	1130	1190	1210	806
16	308	6.6	403	152	64	2480	859	684	1140	1190	1210	775
17	313	6.6	403	152	11	2480	852	680	1130	1180	1200	753
18	303	6.6	423	140	11	2500	844	680	1110	1190	1200	713
19	298	6.0	444	126	16	2070	863	673	1120	1160	1200	635
20	300	5.4	383	126	13	2090	895	659	1120	1200	1190	607
21	300	55	403	104	201	2300	898	691	1110	1210	1170	570
22	300	158	403	78	362	2300	883	716	1110	1200	1170	509
23	303	160	403	79	335	2300	875	775	1110	1190	1170	429
24	303	148	403	79	423	856	867	817	1120	1160	1160	423
25	112	156	426	55	713	24	859	867	1120	1150	1160	409
26	12	156	459	24	1220	24	848	895	1100	1150	1150	406
27	11	156	435	24	1500	649	817	898	1080	1150	1150	409
28	11	156	397	48	1670	898	775	879	1080	1180	1130	371
29	10	156	343	94	1800	910	768	848	1080	1200	1120	354
30	10	148	232	79	---	910	745	863	1060	1210	1090	354
31	10	---	175	81	---	891	---	796	---	1210	1090	---
TOTAL	7698	1587.6	10336	4439	11477	55992	26565	22240	31013	36320	36600	20863
MEAN	248	52.9	333	143	396	1806	886	717	1034	1172	1181	695
MAX	414	160	459	255	1800	2540	1000	898	1140	1210	1220	1060
MIN	10	5.4	128	24	11	24	633	584	802	1110	1090	354
AC-FT	15270	3150	20500	8800	22760	111100	52690	44110	61510	72040	72600	41380

CAL YR 1979 TOTAL 205424.5 MEAN 563 MAX 1460 MIN 1.6 AC-FT 407500
WTR YR 1980 TOTAL 265130.6 MEAN 724 MAX 2540 MIN 5.4 AC-FT 525900

09470000 GILA RIVER AT WINKELMAN, AZ

LOCATION.--Lat 33°00'06", long 110°45'55", in NW¼NE¼ sec.13, T.5 S., R.15 E., Gila County, Hydrologic Unit 15050100, on right bank 1 mi (2 km) north of Winkelman, 2.2 mi (3.5 km) upstream from San Pedro River, and 29 mi (47 km) downstream from Coolidge Dam.

DRAINAGE AREA.--13,268 mi^2 (34,364 km^2), of which 382 mi^2 (989 km^2) is below Coolidge Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1917 to June 1918, September 1941 to September 1980 (discontinued).

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,921.76 ft (585.752 m) National Geodetic Vertical Datum of 1929. Sept. 10, 1917, to June 27, 1918, nonrecording gage at bridge 1.4 mi (2.3 km) downstream at different datum. September 1941 to Jan. 5, 1964, at site about 400 ft (120 m) upstream at datum 0.81 ft (0.247 m) lower. Supplementary nonrecording gage 1.3 mi (2.1 km) downstream since Aug. 9, 1963, at datum 13.68 ft (4.170 m) lower; supplementary water-stage recorder Jan. 6, 1964, to Nov. 24, 1975, at bridge 1.4 mi (2.3 km) downstream at datum 14.76 ft (4.499 m) lower.

REMARKS.--Records fair. Large diversions above station for irrigation, metallurgical treatment of ore, and municipal supply, but none between Coolidge Dam and this station. About 69,000 acres (279 km^2) irrigated in the basin above Coolidge Dam, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir (See sta 09469000).

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir).--39 years (water years 1942-80), 294 ft^3/s (8.326 m^3/s), 213,000 acre-ft/yr (263 hm^3/yr); median of yearly mean discharges, 170 ft^3/s (4.81 m^3/s), 123,000 acre-ft/yr (150 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,000 ft^3/s (1,560 m^3/s) of which 500 ft^3/s (14.2 m^3/s) was released by Coolidge Dam, Aug. 9, 1944, gage height, 18.40 ft (5.608 m), from rating curve extended above 2,900 ft^3/s (82 m^3/s) on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges, unadjusted for release from Coolidge Dam, above base of 1,300 ft^3/s (37 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	2100	*4,090	116	10.52	3.206	July 19	2215	2,050	58.1	7.60	2.316
Feb. 20	1800	1,410	39.9	6.10	1.859	Aug. 14	0100	1,390	39.4	6.35	1.935
Mar. 11	2115	3,670	104	10.24	3.121	Sept. 5	1000	1,350	38.2	6.26	1.908

Minimum daily, 29 ft^3/s (0.82 m^3/s) Nov. 16, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	410	31	146	177	109	2040	1090	828	792	1120	1230	1060
2	381	30	139	177	107	2060	1090	748	822	1150	1190	1010
3	360	30	139	183	108	1940	1100	689	811	1180	1190	881
4	355	30	140	182	109	2120	1200	680	849	1180	1210	973
5	338	30	235	215	112	1960	1240	679	906	1170	1200	1050
6	314	30	291	221	176	1900	1250	681	919	1180	1170	984
7	308	30	300	219	225	2100	1250	733	955	1170	1170	761
8	291	32	318	240	234	2990	1210	742	966	1120	1160	895
9	286	33	322	246	304	2870	1170	731	967	1100	1150	953
10	263	30	320	258	322	2710	1160	725	974	1090	1190	961
11	240	30	321	253	316	3290	1150	724	975	1150	1130	918
12	240	30	321	196	314	3350	1170	720	996	1170	1150	835
13	261	30	339	158	385	3140	1170	713	1030	1180	1170	541
14	284	30	343	157	931	3070	1140	711	1040	1160	1220	773
15	288	30	364	157	2090	3050	956	712	1070	1160	1160	799
16	287	29	383	156	1610	3050	1000	701	1110	1150	1160	757
17	287	30	389	156	1060	3030	987	697	1120	1140	1160	739
18	286	29	389	261	561	3030	991	695	1120	1140	1150	701
19	279	30	444	264	477	3030	992	689	1110	1280	1140	642
20	285	30	382	236	1070	2490	1010	672	1110	1170	1150	590
21	291	30	384	168	610	2580	1010	690	1120	1170	1140	540
22	286	86	387	146	720	2890	993	696	1130	1170	1120	470
23	282	154	386	113	562	2910	967	741	1140	1200	1120	420
24	281	154	385	106	615	2900	953	777	1140	1160	1130	420
25	265	158	386	102	656	990	936	816	1140	1140	1150	400
26	70	160	429	83	1040	140	920	861	1150	1140	1140	400
27	45	160	442	60	1500	290	903	874	1140	1150	1130	390
28	39	162	390	57	1690	990	863	876	1130	1150	1110	365
29	36	163	380	72	1980	1120	855	850	1130	1190	1090	350
30	34	163	278	132	---	1130	839	853	1140	1210	1060	345
31	32	---	200	120	---	1120	---	845	---	1220	1060	---
TOTAL	7704	1994	10072	5271	19993	70280	31565	23149	31002	36060	35700	20923
MEAN	249	66.5	325	170	689	2267	1052	747	1033	1163	1152	697
MAX	410	163	444	264	2090	3350	1250	876	1150	1280	1230	1060
MIN	32	29	139	57	107	140	839	672	792	1090	1060	345
AC-FT	15280	3960	19980	10460	39660	139400	62610	45920	61490	71520	70810	41500

CAL YR 1979 TOTAL 253721 MEAN 695 MAX 5000 MIN 29 AC-FT 503300
WTR YR 1980 TOTAL 293713 MEAN 802 MAX 3350 MIN 29 AC-FT 582600

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
FEB											
20...	1030	1680	325	7.9	11.0	570	10.8	110	1600	150	57
MAR											
19...	1230	3240	845	7.8	14.5	50	10.5	33	9	180	43
APR											
03...	1130	1100	855	7.9	13.0	23	10.8	22	10	180	43
MAY											
06...	1100	659	815	8.0	16.0	13	9.8	15	--	190	52
JUN											
04...	1100	923	800	8.2	16.5	13	4.1	18	110	190	25
JUL											
02...	1400	1160	780	7.3	18.5	13	--	12	40	170	28
31...	0930	932	775	7.9	18.0	7.1	8.6	13	110	160	12
SEP											
04...	1050	1070	770	8.2	17.5	19	8.2	15	140	170	31

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
FEB											
20...	39	12	18	.6	2.2	90	70	16	.3	28	234
MAR											
19...	50	14	110	3.5	4.5	140	94	130	.9	19	516
APR											
03...	50	14	100	3.2	3.9	140	100	110	.8	20	504
MAY											
06...	52	15	100	3.1	3.8	140	89	120	.9	21	487
JUN											
04...	51	14	98	3.1	4.0	160	81	120	.9	20	472
JUL											
02...	46	13	100	3.4	4.3	140	74	110	1.1	20	467
31...	45	12	91	3.1	4.7	150	72	110	1.2	19	470
SEP											
04...	47	13	100	3.3	4.3	140	80	130	.9	21	469

09470000 GILA RIVER AT WINKELMAN, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
FEB										
20...	242	.32	1410	.51	2.1	2.6	12	1.400	4.3	.07
MAR										
19...	508	.70	217	.21	1.6	1.8	8.1	.250	.77	.10
APR										
03...	484	.69	80	.28	.92	1.2	5.4	.170	.52	.05
MAY										
06...	488	.66	45	.37	4.7	5.1	22	.150	.46	.08
JUN										
04...	487	.64	24	.36	.71	1.1	4.7	.170	.52	.08
JUL										
02...	454	.64	21	.20	.97	1.2	5.4	.210	.64	.10
31...	446	.64	25	.29	1.0	1.3	5.6	.260	.80	.15
SEP										
04...	481	.64	18	.10	.68	.75	3.3	.190	.58	.15

DATE	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
FEB										
20...	.21	5	400	80	60	1	†130	120	35000	60
MAR										
19...	.31	5	<100	170	120	0	10	70	8500	60
APR										
03...	.15	5	200	150	120	1	0	19	6600	20
MAY										
06...	.25	4	200	140	100	0	0	20	3000	20
JUN										
04...	.25	4	100	120	100	1	0	46	2100	10
JUL										
02...	.31	5	<100	120	140	1	10	16	1800	40
31...	.46	5	<100	140	80	1	10	13	640	10
SEP										
04...	.46	4	100	130	110	0	0	28	2600	10

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)
FEB										
20...	33	1300	0	.2	1	0	1000	20	.00	0
MAR										
19...	19	370	30	.1	0	1	50	2.0	.00	5
APR										
03...	8	270	8	.0	0	0	120	7.5	.00	5
MAY										
06...	2	160	10	.2	0	0	30	8.7	.00	4
JUN										
04...	12	180	10	.2	0	0	30	12	.00	†10
JUL										
02...	8	140	20	.1	0	0	40	--	.00	†7
31...	4	110	10	.0	0	0	80	9.1	.00	†6
SEP										
04...	12	240	10	.0	0	0	120	9.2	.00	4

< Actual value is known to be less than value shown.
† Value verified.

09470000 GILA RIVER AT WINKELMAN, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUN 4,80	JUL 2,80	JUL 31,80	JUL 31,80	JUL 31,80	SEP 4,80
TIME	1100	1400	0915	0930	0945	1050
TOTAL CELLS/ML	1300	13	13	39	77	750
DIVERSITY: DIVISION	1.1	0.0	0.0	0.9	0.0	0.7
.CLASS	1.1	0.0	0.0	0.9	0.0	0.7
..ORDER	2.0	0.0	0.0	0.9	0.0	0.8
...FAMILY	3.0	0.0	0.0	1.6	2.6	1.0
....GENUS	3.2	0.0	0.0	1.6	2.6	1.0

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...COELASTRACEAE												
....COELASTRUM	210#	15	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE												
....PEDIASTRUM	440#	33	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	14	1	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-	13	2
..TETRASPORALES												
...COCCOMYXACEAE												
....ELAKATOTHRIX	27	2	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	--	-	--	-	13#	33	--	-	--	-
...VOLVOCACEAE												
....PANDORINA	160	12	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	27	2	--	-	--	-	--	-	--	-	13	2
....MELOSIRA	69	5	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	41	3	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	14	1	--	-	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-	13#	17	39	5
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	--	-	13	2
...CYMBELLACEAE												
....AMPHORA	14	1	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE												
....DIATOMA	82	6	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....SYNEDRA	--	-	13#	100	--	-	--	-	13#	17	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	14	1	--	-	13#	100	--	-	13#	17	--	-
...NAVICULACEAE												
....GYROSIGMA	27	2	--	-	--	-	--	-	--	-	--	-
....NAVICULA	14	1	--	-	--	-	13#	33	13#	17	--	-
...NITZSCHIACEAE												
....NITZSCHIA	140	10	--	-	--	-	13#	33	13#	17	51	7
...SURIRELLACEAE												
....SURIRELLA	14	1	--	-	--	-	--	-	13#	17	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	14	1	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	27	2	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	--	-	--	-	620#	83

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

GILA RIVER BASIN

09470500 SAN PEDRO RIVER AT PALOMINAS, AZ

LOCATION.--Lat 31°22'48", long 110°06'38", in SW¼SE¼ sec.33, T.23 S., R.22 E., Cochise County, Hydrologic Unit 15050202, near left bank on downstream side of pier of bridge on State Highway 92, 0.7 mi (1.1 km) east of Palominas, 2.5 mi (4.0 km) upstream from Green Brush Draw, 4.5 mi (7.2 km) downstream from international boundary, and 12 mi (19 km) southwest of Bisbee.

DRAINAGE AREA.--741 mi^2 (1,919 km^2), of which 649 mi^2 (1,681 km^2) is in Mexico.

PERIOD OF RECORD.--May 1930 to October 1933, May 1935 to July 1941, July 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,187.62 ft (1,276.387 m) National Geodetic Vertical Datum of 1929 (State Highway Department bench mark). See WSP 1733 for history of changes prior to Nov. 24, 1955.

REMARKS.--Records fair. Small diversions for irrigation of a few hundred acres above station, mostly in Mexico. Records show approximate flow of river at international boundary.

AVERAGE DISCHARGE.--38 years (water years 1931-33, 1936-40, 1951-80), 32.6 ft^3/s (0.923 m^3/s), 23,620 acre-ft/yr (29.1 hm^3/yr); median of yearly mean discharges, 23 ft^3/s (0.65 m^3/s), 16,700 acre-ft/yr (21 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft^3/s (623 m^3/s) Aug. 14, 1940, gage height, 16.16 ft (4.926 m), present datum, from rating curve extended above 5,600 ft^3/s (160 m^3/s) on basis of slope-area measurement of peak flow; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1906 occurred Sept. 28, 1926, gage height, about 23.9 ft (7.28 m), present datum, from floodmarks; discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,000 ft^3/s (56.6 m^3/s) Aug. 4, 1615 hours, gage height, 6.76 ft (2.060 m), no peak above base of 2,400 ft^3/s (68 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.71	1.9	.56	.10	1.9	.09	1.5	.00	.09	.00
2	.00	.00	.62	1.9	.19	.53	2.2	.00	.26	.16	131	.00
3	.00	.00	.44	2.1	.45	.87	1.8	.00	1.8	.80	38	79
4	.00	.00	.71	1.6	.42	1.1	2.7	.00	.06	.12	300	.46
5	.00	.00	1.2	.46	.21	.92	2.2	.00	.09	.02	74	.00
6	.00	1.0	1.2	.98	.16	.70	.50	.45	.04	.11	53	48
7	.00	1.0	1.2	1.5	.01	.60	1.6	1.1	.04	.00	15	42
8	.00	1.0	1.1	2.0	.63	1.1	.44	.61	.00	1.8	2.2	35
9	.00	1.1	1.0	2.7	.55	1.8	.00	1.0	.40	3.0	.04	1.1
10	.00	1.1	.00	1.3	.19	2.3	.00	.51	.07	.00	.00	.86
11	.00	.80	.00	.05	.12	7.0	.00	1.8	.07	.00	.00	.07
12	.00	.86	.00	.44	.05	3.1	.19	3.4	.99	.00	.00	.00
13	.00	.80	.00	2.3	1.4	4.4	.69	4.5	2.5	2.7	83	.00
14	.00	.16	.00	4.5	10	3.7	2.2	1.9	.08	15	139	.00
15	.00	.56	.35	4.6	12	1.9	.74	1.9	.15	23	154	.01
16	.00	.18	.80	5.1	2.5	2.3	3.0	.88	.28	.51	252	.19
17	.00	.08	1.0	3.3	.86	.41	4.7	.58	.53	.29	48	.00
18	.00	.28	1.5	1.9	.31	1.1	1.9	1.6	.07	.70	5.6	.00
19	.00	1.1	1.6	1.7	.23	.82	2.3	.32	.00	1.2	10	.00
20	.00	.01	1.0	1.4	.27	.61	2.0	1.5	.67	.32	.72	1.4
21	.00	.03	1.1	3.0	.03	.58	.95	2.2	1.5	.19	.24	10
22	.00	.06	1.2	4.9	.05	.41	3.8	.86	.99	8.0	1.3	8.6
23	.00	.02	1.5	5.0	.01	.62	5.2	2.1	2.6	.00	455	1.6
24	.00	.11	1.8	4.3	.01	.00	5.1	1.8	.76	.00	136	.35
25	.00	.57	2.3	2.6	.00	.18	5.2	4.2	.60	.01	54	.30
26	.00	1.4	3.0	.23	.06	.79	2.0	2.2	1.3	.00	10	.15
27	.00	1.1	2.4	.19	.08	1.7	.00	2.0	.75	.00	.22	.00
28	.00	1.2	2.2	.00	.08	1.5	.00	1.8	.00	.00	.00	.00
29	.00	.86	2.2	.00	.07	1.2	.00	3.1	.00	60	.00	.00
30	.00	.47	2.2	.00	---	1.3	.00	3.6	.00	2.6	.35	.00
31	.00	---	2.0	.97	---	1.4	---	1.4	---	.08	.00	---
TOTAL	.00	15.85	36.33	62.92	31.50	45.04	53.31	47.40	18.10	120.61	1962.76	229.09
MEAN	.000	.53	1.17	2.03	1.09	1.45	1.78	1.53	.60	3.89	63.3	7.64
MAX	.00	1.4	3.0	5.1	12	7.0	5.2	4.5	2.6	60	455	79
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	31	72	125	62	89	106	94	36	239	3890	454

CAL YR 1979 TOTAL 19578.89 MEAN 53.6 MAX 5710 MIN .00 AC-FT 38830
WTR YR 1980 TOTAL 2622.91 MEAN 7.17 MAX 455 MIN .00 AC-FT 5200

09471000 SAN PEDRO RIVER AT CHARLESTON, AZ

LOCATION.--Lat 31°37'33", long 110°10'26", in NE¼NE¼ sec.11, T.21 S., R.21 E., Cochise County, Hydrologic Unit 15050202, in Spanish land grant of San Juan de las Boquillas y Nogales, at downstream side of pier near center of highway bridge, 0.3 mi (0.5 km) south of Charleston, 1.5 mi (2.4 km) upstream from Charleston damsite, and 9 mi (14 km) upstream from Babocomari River.

DRAINAGE AREA.--1,219 mi^2 (3,157 km^2), of which 696 mi^2 (1,803 km^2) is in Mexico.

PERIOD OF RECORD.--January and February 1904 (gage heights only); March 1904 to August 1906; November 1910 to December 1911 (gage heights only); September 1912 to current year. Monthly discharge only October 1926 to May 1928 and December 1933 to April 1935, published in WSP 1313. Published as "near Lewis Springs" 1910-11, and as "near Fairbank" 1911-26.

REVISED RECORDS.--WSP 1119: 1939(M). WSP 1213: 1914, 1916(M), 1918(M), 1919, 1920(M), 1922-23(M). WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,954.01 ft (1,205.182 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 1, 1942, nonrecording gage or water-stage recorder at various sites within 6.5 mi (10.5 km) downstream at different datums.

REMARKS.--Records good. Diversions above station, mostly by pumping from ground water, for irrigation of 3,200 acres (13.0 km^2) in 1978, excluding an unknown amount in Mexico. Record shows flow available at Charleston damsite.

AVERAGE DISCHARGE.--69 years (water years 1905, 1913-80), 60.2 ft^3/s (1.705 m^3/s), 43,610 acre-ft/yr (53.8 hm^3/yr); median of yearly mean discharges, 50 ft^3/s (1.42 m^3/s), 36,200 acre-ft/yr (45 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 98,000 ft^3/s (2,780 m^3/s) Sept. 28, 1926, gage height, 21.9 ft (6.68 m), site and datum then in use, by slope-area measurement of peak flow; minimum since 1928, 0.40 ft^3/s (0.011 m^3/s) June 7, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 990 ft^3/s (28.0 m^3/s) Aug. 15, 0430 hours, gage height, 4.00 ft (1.219 m), no peak above base of 3,000 ft^3/s (85 m^3/s); minimum, 1.2 ft^3/s (0.034 m^3/s) July 27, gage height 1.88 ft (0.573 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	6.4	11	14	15	14	12	9.5	5.2	61	3.0	2.4
2	4.9	6.4	12	14	14	16	12	9.5	5.2	7.9	2.0	2.2
3	4.9	6.7	12	14	15	16	12	9.5	4.9	4.3	59	2.0
4	4.9	6.7	12	14	15	15	13	10	4.6	3.6	53	5.2
5	4.9	7.0	12	14	16	16	13	9.5	4.6	3.2	287	3.8
6	4.6	7.5	12	14	16	16	12	9.5	4.6	3.2	64	7.6
7	4.6	7.5	12	14	16	16	12	9.0	4.6	3.2	56	10
8	4.3	8.0	12	14	17	15	12	8.5	4.0	3.0	42	6.4
9	4.6	9.0	12	14	18	14	12	9.0	3.8	2.8	31	7.0
10	4.6	9.0	12	14	17	16	10	9.0	3.6	3.0	18	5.5
11	4.6	8.5	12	14	16	17	10	9.5	3.6	4.0	13	4.0
12	4.6	9.0	12	13	16	17	10	9.0	3.4	10	10	3.8
13	4.6	9.0	12	12	16	16	10	9.5	3.4	5.5	174	3.6
14	4.6	9.5	12	12	17	15	10	9.5	3.4	3.2	208	3.5
15	4.6	9.5	12	12	20	15	10	9.5	3.2	2.8	269	3.5
16	4.6	9.5	12	13	23	13	11	9.0	3.2	2.6	24	3.5
17	4.6	9.5	12	13	20	12	10	9.0	3.0	1.6	15	3.5
18	4.6	9.5	12	13	18	12	10	8.5	3.0	1.6	10	3.5
19	4.9	10	12	13	18	12	10	8.5	3.0	1.6	8.0	3.5
20	4.9	10	12	12	16	12	10	8.0	3.0	2.8	5.5	3.5
21	4.9	10	12	13	16	12	10	7.5	3.6	3.0	4.6	3.5
22	5.2	9.5	12	13	15	12	10	7.0	3.8	3.0	3.8	3.5
23	5.2	10	12	13	15	12	9.5	6.7	3.4	3.0	101	3.5
24	5.2	10	12	13	15	12	10	6.4	3.0	2.2	175	3.4
25	5.2	11	13	14	14	12	10	6.4	3.4	2.2	29	3.6
26	4.9	11	13	15	14	11	11	6.4	3.4	2.2	14	4.3
27	5.2	11	12	14	15	13	11	6.1	3.4	2.0	9.0	3.8
28	5.5	11	12	14	14	13	10	6.1	3.4	2.6	6.4	3.8
29	5.5	11	13	14	14	13	9.5	6.1	3.6	32	5.5	3.6
30	5.5	11	14	14	---	13	9.5	6.1	3.8	4.6	4.0	3.6
31	6.1	---	14	15	---	14	---	5.5	---	3.0	2.8	---
TOTAL	151.9	273.7	378	419	471	432	321.5	253.3	112.1	190.7	1706.6	124.6
MEAN	4.90	9.12	12.2	13.5	16.2	13.9	10.7	8.17	3.74	6.15	55.1	4.15
MAX	6.1	11	14	15	23	17	13	10	5.2	61	287	10
MIN	4.3	6.4	11	12	14	11	9.5	5.5	3.0	1.6	2.0	2.0
AC-FT	301	543	750	831	934	857	638	502	222	378	3390	247

CAL YR 1979 TOTAL 25948.9 MEAN 71.1 MAX 6420 MIN 4.3 AC-FT 51470
WTR YR 1980 TOTAL 4834.4 MEAN 13.2 MAX 287 MIN 1.6 AC-FT 9590

09471550 SAN PEDRO RIVER NEAR TOMBSTONE, AZ

LOCATION.--Lat 31°45'03", long 110°12'02", in SE¼ sec.28, T.19 S., R.21 E. (unsurveyed), Cochise County, Hydrologic Unit 15050202, in Spanish land grant of San Juan de las Boquillas y Nogales, on right bank 0.5 mi (0.8 km) downstream from Willow Wash, 2.6 mi (4.2 km) north of Fairbank, and 8 mi (13 km) northwest of Tombstone.

DRAINAGE AREA.--1,740 mi^2 (4,510 km^2) approximately, of which 696 mi^2 (1,800 km^2) is in Mexico.

PERIOD OF RECORD.--April 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,780 ft (1,152 m), from topographic map.

REMARKS.--Records fair. Diversions above station, mostly by pumping from ground water, for irrigation of 3,200 acres (13.0 km^2) in 1978, excluding an unknown amount in Mexico.

AVERAGE DISCHARGE.--13 years, 49.2 ft^3/s (1.393 m^3/s), 35,640 acre-ft/yr (43.9 hm^3/yr); median of yearly mean discharges, 41 ft^3/s (1.16 m^3/s), 29,700 acre-ft per year (37 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft^3/s (685 m^3/s) Oct. 9, 1977, gage height, 11.40 ft (3.475 m), from rating curve extended above 4,900 ft^3/s (140 m^3/s) on basis of slope-area measurements at gage heights 8.89 ft (2.710 m) and 11.40 ft (3.475 m). No flow at times during most summers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft^3/s (39.6 m^3/s) Aug. 15, about 1000 hours, gage height 4.35 ft (1.326 m), from floodmark in gage well, no peak above base of 3,000 ft^3/s (85 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	3.1	10	14	15	15	12	9.3	2.2	5.4	.00	1.0
2	1.5	3.6	11	14	15	15	11	9.1	2.1	45	.00	1.0
3	1.5	4.4	10	14	15	15	12	8.7	2.0	5.1	.00	1.0
4	1.3	4.6	10	14	15	15	12	8.5	1.8	.42	.00	5.0
5	1.3	4.8	10	14	14	15	12	7.7	1.8	.00	295	2.0
6	1.2	5.4	10	14	14	15	12	7.4	1.7	.00	31	50
7	1.0	6.0	10	14	13	15	12	7.2	1.6	.00	18	20
8	.79	6.4	10	14	15	14	12	6.9	1.4	.00	18	5.0
9	.80	7.5	10	14	15	14	12	6.4	.89	.00	105	2.0
10	1.1	7.7	11	14	14	15	11	6.2	.13	.00	12	1.0
11	1.0	7.7	11	14	14	18	10	5.8	.10	.00	.50	1.0
12	.95	8.2	11	14	13	17	10	6.0	.00	.00	.30	.50
13	1.0	8.6	12	14	15	16	11	5.9	.00	.00	300	.50
14	1.1	8.7	11	14	17	15	11	5.9	.00	.00	254	.00
15	1.0	9.2	11	15	19	15	11	5.9	.00	.00	420	.00
16	1.0	9.4	11	14	24	14	11	5.9	.00	.00	42	.00
17	1.0	9.7	11	14	24	14	11	5.5	.00	.00	15	.00
18	1.0	9.5	11	15	20	14	10	5.4	.00	.00	10	.00
19	1.3	9.1	12	15	19	13	11	5.1	.00	.00	8.0	.00
20	1.3	9.1	12	14	18	13	10	4.8	.00	.00	5.9	.00
21	1.5	8.7	12	15	18	13	11	4.3	.00	.00	4.2	.00
22	1.7	9.1	12	15	18	13	9.7	3.8	.00	.00	3.5	.00
23	1.8	8.9	12	15	17	13	9.5	3.7	.00	.00	42	.00
24	2.0	9.9	12	15	17	13	10	3.4	.00	.00	192	.00
25	2.0	10	12	15	17	13	11	3.3	.00	.00	113	35
26	1.9	10	12	15	17	13	11	3.3	.00	.00	8.7	12
27	2.0	10	12	15	16	12	11	3.0	.00	.00	5.9	1.5
28	2.3	10	13	15	16	12	9.8	3.0	.00	.00	4.2	.56
29	2.3	10	14	15	15	12	9.1	2.9	.00	.00	3.2	.00
30	2.4	10	14	14	---	12	8.8	2.7	.00	.00	2.2	.00
31	2.9	---	14	16	---	12	---	2.5	---	.00	1.5	---
TOTAL	45.54	239.3	354	448	479	435	324.9	169.5	15.72	55.92	1915.10	139.06
MEAN	1.47	7.98	11.4	14.5	16.5	14.0	10.8	5.47	.52	1.80	61.8	4.64
MAX	2.9	10	14	16	24	18	12	9.3	2.2	45	420	50
MIN	.79	3.1	10	14	13	12	8.8	2.5	.00	.00	.00	.00
AC-FT	90	475	702	889	950	863	644	336	31	111	3800	276

CAL YR 1979 TOTAL 26166.24 MEAN 71.7 MAX 4840 MIN .79 AC-FT 51900
WTR YR 1980 TOTAL 4621.04 MEAN 12.6 MAX 420 MIN .00 AC-FT 9170

09472000 SAN PEDRO RIVER NEAR REDINGTON, AZ

LOCATION.--Lat 32°22'50", long 110°26'45", in NE¼NW¼ sec.19, T.12 S., R.19 E., Cochise County, Hydrologic Unit 15050203, on left bank, 0.3 mi (0.5 km) upstream from Cochise-Pima County line, 4.3 mi (6.9 km) southeast of Redington, and 30 mi (48 km) north of Benson.

DRAINAGE AREA.--2,939 mi^2 (7,612 km^2), of which 696 mi^2 (1,803 km^2) is in Mexico.

PERIOD OF RECORD.--June 1943 to June 1947, July 1950 to current year (monthly discharge only, July 1954 to March 1955). Also extremes for water years 1948-50, published in WSP 1179.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,930.04 ft (893.076 m) National Geodetic Vertical Datum of 1929. June 1943 to June 1947, and Oct. 1, 1962, to June 27, 1963, at present site at datum 7.49 ft (2.283 m) higher. July 1950 to Sept. 30, 1962, at site 400 ft (120 m) upstream at datum 10.47 ft (3.191 m) higher. Supplementary water-stage recorder 50 ft upstream at same datum since June 29, 1977.

REMARKS.--Records fair. Diversions above station for irrigation of about 10,800 acres (43.7 km^2) in 1978, excluding an unknown amount in Mexico. Diversion above gage into formerly used ditch on right bank was placed in operation in January 1972; diversion was observed Jan. 4, Mar. 13, Apr. 22, and June 5.

AVERAGE DISCHARGE.--33 years (water years 1944-46, 1951-80), 46.1 ft^3/s (1.306 m^3/s), 33,400 acre-ft/yr (41.2 hm^3/yr); median of yearly mean discharges, 31 ft^3/s (0.88 m^3/s), 22,500 acre-ft/yr (28 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,600 ft^3/s (810 m^3/s) Aug. 2, 1951, gage height, 20.2 ft (6.16 m), present site and datum, from rating curve extended above 16,000 ft^3/s (450 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1906, about 90,000 ft^3/s (2,550 m^3/s) Sept. 28, 1926, gage height, 29.0 ft (8.84 m), present site and datum, from floodmark, computed on basis of peak discharge of same flood for station at Charleston and for Gila River at Kelvin.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 392 ft^3/s (11.1 m^3/s) Aug. 14, 0130 hours, gage height 8.98 ft (2.737 m), no peak above base of 3,000 ft^3/s (85 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	1.7	4.0	.00	4.4	3.2	.00	.00	.00	1.2	84	.00
2	1.9	2.0	4.0	.00	4.3	3.2	.00	.00	.00	.00	4.0	.00
3	1.2	2.1	4.3	.00	4.3	3.4	.00	.00	.00	.00	2.7	.00
4	.60	2.2	4.1	.00	4.3	3.2	.00	.00	.00	.00	1.9	.00
5	.90	2.3	4.3	.00	4.3	3.2	.00	.00	.00	.00	1.7	.00
6	.40	2.4	3.1	.00	4.3	2.3	.00	.00	.00	.00	.00	7.5
7	.20	2.4	.00	.00	4.3	.00	.00	.00	.00	.00	.00	6.2
8	.20	3.0	.00	.00	4.8	.00	.00	.00	.00	.00	.00	13
9	.20	3.1	.00	.00	4.5	.00	.00	.00	.00	.00	.00	5.9
10	.10	3.2	.00	.00	4.4	.00	.00	.00	.00	.00	10	3.9
11	.20	3.3	.00	.00	4.4	.00	.00	.00	.00	.00	.40	3.6
12	.30	3.3	.00	.00	4.4	.00	.00	.00	.00	.00	.00	2.8
13	.40	3.3	.00	.00	5.0	.00	.00	.00	.00	27	26	2.0
14	.30	3.2	.00	.00	27	.00	.00	.00	.00	28	129	1.8
15	.40	3.3	.00	.00	23	.00	.00	.00	.00	11	25	1.8
16	.30	3.4	.00	.00	21	.00	.00	.00	.00	9.9	43	1.8
17	.30	3.4	.00	.00	22	.00	.00	.00	.00	10	14	1.4
18	.30	3.4	.00	.00	9.0	.00	.00	.00	.00	8.8	2.0	1.4
19	.30	3.4	.00	.00	6.4	.00	.00	.00	.00	11	.80	1.1
20	.40	3.5	.00	.00	4.8	.00	.00	.00	.00	15	.50	1.1
21	.60	3.9	.00	1.4	4.5	.00	.00	.00	.00	12	.30	1.1
22	.90	7.5	.00	4.8	4.3	.00	.00	.00	.00	10	.00	1.1
23	.90	8.4	.00	4.8	3.7	.00	.00	.00	.00	10	.00	1.1
24	.90	8.0	.00	4.8	3.5	.00	.00	.00	.00	10	12	1.4
25	.90	8.2	.00	4.6	3.4	.00	.00	.00	.00	10	1.5	3.9
26	.60	8.2	.00	4.6	3.2	.00	.00	.00	.00	10	10	3.4
27	.60	7.3	.00	4.6	3.2	.00	.00	.00	.00	10	1.0	2.8
28	.90	6.6	.00	4.5	3.2	.00	.00	.00	.00	10	.00	2.6
29	.90	6.3	.00	4.8	2.9	.00	.00	.00	.00	10	.00	2.0
30	1.0	5.3	.00	4.6	---	.00	.00	.00	1.7	11	.00	1.8
31	1.3	---	.00	4.5	---	.00	---	.00	---	33	.00	---
TOTAL	21.80	127.6	23.80	48.00	202.8	18.50	.00	.00	1.70	257.90	369.80	76.50
MEAN	.70	4.25	.77	1.55	6.99	.60	.000	.000	.057	8.32	11.9	2.55
MAX	3.4	8.4	4.3	4.8	27	3.4	.00	.00	1.7	33	129	13
MIN	.10	1.7	.00	.00	2.9	.00	.00	.00	.00	.00	.00	.00
AC-FT	43	253	47	95	402	37	.00	.00	3.4	512	733	152

CAL YR 1979 TOTAL 35845.10 MEAN 98.2 MAX 5640 MIN .00 AC-FT 71100
WTR YR 1980 TOTAL 1148.40 MEAN 3.14 MAX 129 MIN .00 AC-FT 2280

09473000 ARAVAIPA CREEK NEAR MAMMOTH, AZ

LOCATION.--Lat 32°50'37", long 110°37'07", in NW¼NW¼ sec.9, T.7 S., R.17 E., Pinal County, Hydrologic Unit 15050203, on right bank 6 mi (10 km) upstream from mouth and 9 mi (14 km) north of Mammoth.

DRAINAGE AREA.--541 mi^2 (1,401 km^2).

PERIOD OF RECORD.--May 1931 to December 1942 (published as "near Feldman"), May 1966 to current year. Monthly discharge only July 1941 to December 1942, published in WSP 1313.

REVISED RECORDS.--WRD Ariz. 1968: 1967.

GAGE.--Water-stage recorder. Altitude of gage is 2,350 ft (716 m), from topographic map. May 1931 to December 1942 at site 0.3 mi (0.5 km) downstream at different datum.

REMARKS.--Records fair. Diversions for irrigation of several hundred acres above station.

AVERAGE DISCHARGE.--25 years, 30.7 ft^3/s (0.869 m^3/s), 22,240 acre-ft/yr (27.4 hm^3/yr); median of yearly mean discharges, 22 ft^3/s (0.62 m^3/s), 15,900 acre-ft/yr (20 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge since at least 1931, 16,200 ft^3/s (459 m^3/s) Dec. 18, 1978, gage height, 13.71 ft (4.179 m), from profile past gage, from rating curve extended above 1,300 ft^3/s (37 m^3/s) on basis of slope-area measurement of peak flow; minimum, 0.3 ft^3/s (0.008 m^3/s) Aug. 30, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of 20,000 ft^3/s (566 m^3/s) occurred Aug. 2, 1919, at site of former gaging station 6 mi (10 km) downstream, operated April 1919 to September 1921, gage height, 6.3 ft (1.92 m), from floodmark, site and datum then in use, from rating curve extended above 5,100 ft^3/s (140 m^3/s) on basis of velocity-area study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,460 ft^3/s (69.7 m^3/s) Feb. 15, 1715 hours, gage height, 5.26 ft (1.603 m), no peak above base of 2,500 ft^3/s (71 m^3/s); minimum daily, 10 ft^3/s (0.28 m^3/s) June 19-20, 22, Aug. 21-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	25	25	26	36	50	37	25	14	18	23	15
2	24	25	25	26	34	50	39	25	19	18	22	15
3	23	25	27	26	32	55	37	25	18	17	20	15
4	23	25	28	26	30	129	37	25	17	16	20	13
5	25	25	28	26	29	52	37	25	14	15	41	14
6	25	25	28	26	29	44	32	25	14	14	26	14
7	25	25	28	26	27	70	27	25	19	17	25	50
8	25	29	28	26	31	44	27	24	19	16	25	36
9	25	30	28	26	34	37	26	24	19	15	21	26
10	25	28	28	28	31	36	26	23	19	15	60	21
11	25	27	28	29	31	263	26	21	18	15	50	19
12	25	28	28	28	30	159	26	21	18	16	20	17
13	25	28	28	27	109	68	25	18	17	17	25	16
14	25	27	28	26	395	45	26	17	17	17	125	16
15	25	27	28	28	896	41	26	17	17	17	45	19
16	25	27	27	26	477	37	25	17	17	18	30	21
17	25	26	27	26	633	32	25	18	16	14	25	21
18	25	26	27	161	333	32	25	19	12	12	20	21
19	25	26	27	218	315	39	25	19	10	14	20	20
20	25	27	27	123	663	39	25	21	10	21	15	20
21	50	27	32	61	280	33	25	21	11	16	10	19
22	35	28	30	60	120	33	25	22	10	14	10	18
23	25	29	28	47	100	34	25	22	15	26	10	15
24	25	30	27	40	100	34	25	21	17	27	15	13
25	25	29	27	37	80	33	25	21	15	25	25	16
26	25	30	28	35	60	33	25	21	12	21	15	20
27	25	29	33	33	55	36	25	20	12	25	15	20
28	25	31	27	32	50	36	25	20	16	21	15	19
29	25	31	27	33	50	34	25	20	18	20	15	18
30	25	27	27	40	---	34	25	18	18	23	15	17
31	25	---	27	39	---	38	---	16	---	24	15	---
TOTAL	802	822	861	1411	5090	1700	829	656	468	564	818	584
MEAN	25.9	27.4	27.8	45.5	176	54.8	27.6	21.2	15.6	18.2	26.4	19.5
MAX	50	31	33	218	896	263	39	25	19	27	125	50
MIN	22	25	25	26	27	32	25	16	10	12	10	13
AC-FT	1590	1630	1710	2800	10100	3370	1640	1300	928	1120	1620	1160

CAL YR 1979 TOTAL 20917 MEAN 57.3 MAX 1390 MIN 15 AC-FT 41490
WTR YR 1980 TOTAL 14605 MEAN 39.9 MAX 896 MIN 10 AC-FT 28970

09473100 SAN PEDRO RIVER BELOW ARAVAIPA CREEK NEAR MAMMOTH, AZ.

LOCATION.--Lat 32°51'03", long 110°43'27", in SE¼NE¼SE¼ sec.5, T.7 S., R.16 E., Pinal County, Hydrologic Unit 15050203, on left bank 1.0 mi (1.6 km) downstream from mouth of Aravaipa Creek, 10 mi (16 km) north of Mammoth, and 11 mi (18 km) upstream from mouth.

DRAINAGE AREA.--4,360 mi^2 (11,290 km^2); of which 696 mi^2 (1,803 km^2) is in Mexico.

PERIOD OF RECORD.--October 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 2,125 ft (648 m), from topographic map.

REMARKS.--Records poor. Diversions above station, mostly by pumping from ground water, for municipal and industrial use, and for irrigation of about 14,700 acres (59.5 km^2) in 1978, excluding an unknown amount in Mexico.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,900 ft^3/s (82.1 m^3/s) Feb. 15, 1900 hours, gage height, 8.30 ft (2.530 m), no peak above base of 4,000 ft^3/s (110 m^3/s); minimum daily, 5.0 ft^3/s (0.142 m^3/s) July 16-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	15	20	19	25	52	33	18	12	10	40	11
2	12	15	19	20	25	49	32	18	12	8.0	36	11
3	12	15	18	20	25	57	31	19	12	6.0	27	11
4	12	15	18	20	20	88	30	20	12	6.0	22	11
5	12	15	16	20	19	52	28	19	11	6.0	29	11
6	12	16	17	20	18	39	31	21	11	6.0	32	11
7	12	15	17	20	18	51	33	22	11	6.0	25	24
8	12	16	17	20	20	40	31	22	11	6.0	25	53
9	12	16	17	20	18	32	31	20	11	6.0	21	31
10	12	15	17	20	18	29	29	18	14	6.0	59	33
11	12	16	16	20	18	162	27	16	14	6.0	58	31
12	11	16	16	20	18	150	26	15	11	17	16	27
13	11	16	16	20	34	80	25	14	11	29	27	26
14	11	16	15	20	427	60	25	13	8.0	6.0	151	18
15	11	14	14	20	1340	50	25	17	8.0	7.0	46	15
16	11	14	17	20	830	40	24	15	7.0	5.0	31	15
17	11	15	18	20	760	39	22	15	6.0	5.0	25	15
18	11	16	16	120	544	37	20	15	6.0	5.0	22	15
19	11	16	14	160	466	37	20	15	6.0	61	18	15
20	11	17	17	90	742	37	20	15	6.0	21	15	15
21	35	17	17	50	338	34	20	15	6.0	16	11	15
22	25	17	17	45	122	34	20	15	6.0	14	9.0	10
23	15	18	21	35	107	34	20	15	6.0	12	10	10
24	15	19	20	30	105	34	20	16	6.0	14	17	10
25	15	20	16	30	83	34	20	16	6.0	12	25	20
26	15	22	21	25	64	39	20	17	6.0	13	17	24
27	15	21	21	25	57	42	20	17	6.0	12	16	15
28	15	22	18	25	55	37	20	15	6.0	9.0	13	15
29	15	21	20	25	54	32	18	15	8.0	9.0	13	15
30	15	22	19	50	---	30	18	14	10	10	12	15
31	15	---	20	30	---	33	---	13	---	103	12	---
TOTAL	426	508	545	1059	6370	1564	739	515	266.0	452.0	880.0	548
MEAN	13.7	16.9	17.6	34.2	220	50.5	24.6	16.6	8.87	14.6	28.4	18.3
MAX	35	22	21	160	1340	162	33	22	14	103	151	53
MIN	11	14	14	19	18	29	18	13	6.0	5.0	9.0	10
AC-FT	845	1010	1080	2100	12630	3100	1470	1020	528	897	1750	1090

WTR YR 1980 TOTAL 13872.0 MEAN 37.9 MAX 1340 MIN 5.0 AC-FT 27520

NOTE.--No gage-height record Oct. 1 to Nov. 5.

09473500 SAN PEDRO RIVER AT WINKELMAN, AZ
(National stream-quality accounting network station)

LOCATION.--Lat 32°58'38", long 110°46'11", in SE¼SW¼ sec.24, T.5 S., R.15 E., Pinal County, Hydrologic Unit 15050203, on right bank 0.7 mi (1.1 km) south of Winkelman, and 1.0 mi (1.6 km) upstream from mouth.

PERIOD OF RECORD.--January 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1966 to September 1976.
WATER TEMPERATURES: January 1966 to September 1976.
SUSPENDED-SEDIMENT DISCHARGE: January 1966 to September 1976.

REMARKS.--Operated as continuous record stream-gaging station January 1966 to October 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
FEB											
21...	1000	358	450	7.7	13.5	480	10.3	65	325	600	160
MAR											
21...	1100	34	1010	8.0	23.5	3.5	8.9	9	<1	21	270
APR											
02...	1400	32	1030	8.0	21.5	4.2	9.4	5	53	23	260
MAY											
05...	1300	19	990	8.1	28.5	1.6	8.7	7	11	62	270
JUN											
03...	1400	11	1140	8.1	30.0	1.6	5.7	3	10	67	290
JUL											
01...	1000	9.9	1210	8.1	30.0	6.0	--	2	273	240	320
31...	1430	8.3	1100	8.1	36.0	2.4	8.0	2	220	155	280
SEP											
03...	1245	10	1180	8.2	32.0	38	--	3	180	180	320

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
FEB											
21...	59	48	9.6	35	1.2	3.4	100	95	17	.7	31
MAR											
21...	78	81	16	100	2.7	5.6	190	220	33	1.9	35
APR											
02...	74	81	15	100	2.7	5.4	190	230	33	2.0	34
MAY											
05...	76	80	16	120	3.2	5.6	190	270	38	2.3	34
JUN											
03...	56	85	18	150	3.9	6.1	230	330	46	2.7	37
JUL											
01...	98	96	19	150	3.7	7.3	220	320	47	2.7	38
31...	70	84	17	140	3.6	7.3	210	310	44	2.6	29
SEP											
03...	120	96	19	160	3.9	6.9	200	350	50	2.6	40

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
FEB											
21...	298	303	.41	322	.72	.06	.00	.07	.83	.22	.89
MAR											
21...	637	611	.87	658	1.0	.00	.02	.00	1.7	.45	1.7
APR											
02...	507	619	.69	761	.96	.06	.06	.07	.54	.49	.60
MAY											
05...	641	683	.87	708	.60	.08	.04	.10	.92	.30	1.0
JUN											
03...	771	815	1.05	805	.50	.04	.00	.05	.41	.48	.45
JUL											
01...	856	815	1.16	892	.62	.63	.63	.76	1.1	.30	1.7
31...	781	764	1.06	793	.77	.01	.01	.01	2.2	.95	2.2
SEP											
03...	845	849	1.15	956	.96	.00	.00	.00	.55	.39	.55

< Actual value is known to be less than value shown.

09473500 SAN PEDRO RIVER AT WINKELMAN, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRU-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHUS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DTSSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)
FEB											
21...	.67	.22	1.6	.94	7.3	1.200	3.7	.060	.07	.21	4
MAR											
21...	1.2	.47	2.7	1.5	12	.060	.18	.050	.05	.15	4
APR											
02...	.05	.55	1.6	1.5	7.0	.100	.31	.040	.01	.03	5
MAY											
05...	.66	.34	1.6	.94	7.0	.050	.15	.040	.03	.09	4
JUN											
03...	.00	.48	.93	.98	4.1	.030	.09	.010	.03	.09	5
JUL											
01...	.77	.93	2.3	1.6	10	.060	.18	.010	.02	.06	7
31...	1.2	.96	3.0	1.7	13	.070	.21	.060	.03	.09	6
SEP											
03...	.16	.39	1.5	1.4	6.8	.050	.15	.080	.07	.21	7

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRU-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)
FEB											
21...	2	400	30	110	--	2	<1	20	0	16	<3
MAR											
21...	--	<100	--	190	--	0	--	10	--	--	--
APR											
02...	--	100	--	180	--	1	--	0	--	--	--
MAY											
05...	4	200	40	210	160	0	<1	0	0	1	<3
JUN											
03...	--	<100	--	180	--	0	--	0	--	--	--
JUL											
01...	--	<100	--	220	--	0	--	10	--	--	--
31...	7	<100	60	240	--	0	<1	10	10	3	<3
SEP											
03...	--	100	--	30	--	0	--	10	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
FEB										
21...	180	10	21000	10	78	9	1000	20	.2	.0
MAR										
21...	8	--	550	50	12	--	40	10	.0	--
APR										
02...	3	--	1600	20	4	--	80	10	.0	--
MAY										
05...	8	5	1000	20	2	1	60	10	.1	.0
JUN										
03...	5	--	350	20	1	--	60	10	.1	--
JUL										
01...	8	--	600	20	9	--	110	20	.2	--
31...	24	3	310	20	9	0	50	20	.1	.0
SEP										
03...	12	--	1500	40	4	--	80	10	.0	--

< Actual value is known to be less than value shown.

GILA RIVER BASIN

09473500 SAN PEDRO RIVER AT WINKELMAN, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
FEB										
21...	38	0	0	0	0	0	190	4	9.4	--
MAR										
21...	--	--	1	--	2	--	20	--	11	--
APR										
02...	--	--	1	--	0	--	20	--	11	--
MAY										
05...	12	2	1	1	0	0	20	8	2.8	2.8
JUN										
03...	--	--	1	--	0	--	120	--	8.6	--
JUL										
01...	--	--	1	--	0	--	40	--	3.8	--
31...	0	0	1	1	0	0	150	7	9.5	5.7
SEP										
03...	--	--	1	--	0	--	40	--	5.8	--

DATE	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
FEB										
21...	.00	4	--	--	--	--	--	1740	1680	48
MAR										
21...	.00	1	--	--	--	--	--	--	--	--
APR										
02...	.00	5	--	--	--	--	--	333	29	--
MAY										
05...	.00	1	--	--	--	--	--	69	3.7	--
JUN										
03...	.00	2	9.29	6.61	840	3.19	.710	47	1.5	--
JUL										
01...	.00	2	--	--	--	--	--	81	2.2	--
31...	.00	2	--	--	--	--	--	68	1.5	--
SEP										
03...	.00	2	--	--	--	--	--	154	4.4	--

09473500 SAN PEDRO RIVER AT WINKELMAN, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	MAR 21,80		MAY 5,80		JUN 3,80		JUL 1,80		JUL 31,80	
TIME	1100		1300		1400		1000		1330	
TOTAL CELLS/ML	1900		6000		3600		10000		10000	
DIVERSITY: DIVISION	0.8		1.1		1.3		0.6		0.6	
.CLASS	0.8		1.1		1.3		0.6		0.6	
..ORDER	0.9		1.9		2.0		1.1		0.9	
...FAMILY	2.2		2.5		2.7		1.3		1.0	
....GENUS	2.3		2.6		2.7		2.0		1.0	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	170	5	--	-	--	-
...MICRACTINIACEAE										
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....DICTYOSPHAERIUM	--	-	--	-	--	-	*	0	--	-
....TETRAEDRON	--	-	--	-	*	0	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	180	3	140	4	230	2	--	-
....TETRASTRUM	--	-	--	-	--	-	*	0	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	15	1	78	1	--	-	*	0	130	1
....PLATYMONAS	15	1	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...MESOTAENIACEAE										
....CYLINDROCYSTIS	--	-	--	-	*	0	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	46	2	260	4	200	6	*	0	*	0
....MELOSIRA	--	-	--	-	--	-	*	0	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	*	0
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	130	2	43	1	*	0	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	*	0	--	-
...CYMBELLACEAE										
....AMPHORA	--	-	*	0	--	-	--	-	--	-
....CYMBELLA	31	2	78	1	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	130	2	43	1	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	120	7	52	1	57	2	*	0	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	110	6	*	0	240	7	*	0	*	0
...NAVICULACEAE										
....NAVICULA	350#	19	260	4	200	6	170	2	210	2
...NITZSCHIACEAE										
....DENTICULA	--	-	--	-	--	-	120	1	--	-
....HANTZSCHIA	--	-	--	-	--	-	*	0	--	-
....NITZSCHIA	900#	48	940#	16	460	13	350	3	900	9
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOMONADACEAE										
....CRYPTOMONAS	15	1	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	260	4	--	-	460	4	--	-
....ANACYSTIS	--	-	780	13	460	13	490	5	400	4
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	280	15	--	-	--	-	310	3	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	6500#	62	--	-
....OSCILLATORIA	--	-	2800#	46	1600#	43	1500	15	8700#	87
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	*	0	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09473500 SAN PEDRO RIVER AT WINKELMAN, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 31,80		JUL 31,80		SEP 3,80		SEP 3,80		SEP 3,80	
TIME	1335		1340		1245		1250		1255	
TOTAL CELLS/ML	9300		7500		1800		1600		1700	
DIVERSITY: DIVISION	0.6		0.8		1.0		0.9		0.7	
.CLASS	0.6		0.8		1.0		0.9		0.7	
..ORDER	0.9		1.2		1.0		1.0		1.0	
...FAMILY	1.0		1.3		1.5		1.8		1.8	
....GENUS	1.0		1.3		1.5		1.8		1.8	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	230	3	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....MICRACTINIUM	--	-	--	-	--	-	--	-	110	7
...OOCYSTACEAE										
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	67	1	--	-	--	-	--	-	--	-
....TETRASTRUM	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	130	1	67	1	13	1	51	3	86	5
....PLATYMONAS	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...MESOTAENIACEAE										
....CYLINDROCYSTIS	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	*	0	67	1	13	1	13	1	43	3
....MELOSIRA	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	--	-	--	-	--	-
....CYMBELLA	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	26	1	51	3	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	--	-	26	1	13	1	72	4
...NAVICULACEAE										
....NAVICULA	220	2	270	4	120	7	260#	16	260#	16
...NITZSCHIACEAE										
....DENTICULA	--	-	--	-	--	-	--	-	--	-
....HANTZSCHIA	--	-	--	-	--	-	--	-	--	-
....NITZSCHIA	670	7	790	11	980#	55	980#	59	1000#	62
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	440	5	340	4	--	-	51	3	57	3
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	7700#	83	5700#	77	590#	34	230	14	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09474000 GILA RIVER AT KELVIN, AZ
(National stream-quality accounting network station)

LOCATION.--Lat 33°06'10", long 110°58'33", in NE¼NW¼ sec.12, T.4 S., R.13 E., Pinal County, Hydrologic Unit 15050100, on left bank at Kelvin, 500 ft (152 m) downstream from Mineral Creek, 18 mi (29 km) downstream from San Pedro River, and 19 mi (31 km) upstream from Ashurst-Hayden Dam.

DRAINAGE AREA.--18,011 mi^2 (46,648 km^2), of which 5,125 mi^2 (13,274 km^2) is below Coolidge Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1911 to current year.

REVISED RECORDS.--WSP 329: 1911. WSP 609: 1916(M). WSP 629: 1914-17. WSP 1119: 1913, 1915, 1917(M), 1921(M), 1922-23, 1927(M). WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,745.02 ft (531.882 m) National Geodetic Vertical Datum of 1929. Prior to June 15, 1914, and Dec. 1, 1914, to Aug. 31, 1915, nonrecording gages at several sites within 2 mi (3 km) of present site at different datums. Sept. 1, 1915, to Sept. 30, 1963, water-stage recorder at site 900 ft (270 m) downstream at datum 1.80 ft (0.549 m) lower.

REMARKS.--Records good. Large diversions above station for irrigation, of which about 90 percent is above Coolidge Dam. About 82,000 acres (332 km^2) irrigated, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir 49 mi (79 km) upstream since Nov. 15, 1928. (See sta 09469000.) San Pedro River contributes major portion of unregulated inflow.

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir).--69 years, 481 ft^3/s (13.62 m^3/s), 348,500 acre-ft/yr (430 hm^3/yr); median of yearly mean discharges, 330 ft^3/s (9.34 m^3/s), 239,000 acre-ft/yr (295 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 132,000 ft^3/s (3,740 m^3/s) Jan. 20, 1916, gage height, 19.5 ft (5.94 m), from rating curve extended above slope-area measurement at gage height 16.2 ft (4.94 m) for flood of Sept. 28, 1926; minimum daily, 0.1 ft^3/s (0.003 m^3/s) June 25, 1961.
Maximum discharge since completion of Coolidge Dam, 42,800 ft^3/s (1,210 m^3/s) Aug. 8, 1930, gage height, 12.6 ft (3.84 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,950 ft^3/s (197 m^3/s) Feb. 15, 2300 hours, gage height, 12.3 ft (3.75 m), base discharge, 4,000 ft^3/s (113 m^3/s); minimum daily, 47 ft^3/s (1.33 m^3/s) Nov. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	422	63	186	234	268	2110	1260	1010	936	1180	1280	1200
2	415	59	173	224	252	2060	1250	966	966	1160	1270	1180
3	394	55	168	217	232	2010	1250	864	960	1160	1260	996
4	377	53	162	212	168	2200	1310	834	984	1190	1240	1030
5	368	51	185	216	158	2170	1360	813	1030	1190	1250	1170
6	344	51	268	236	166	1990	1390	795	1060	1190	1250	1120
7	323	59	296	234	230	2090	1390	805	1080	1190	1250	1010
8	314	52	325	240	272	2690	1370	816	1100	1160	1250	793
9	296	51	362	258	332	2800	1350	828	1100	1150	1240	1060
10	285	51	371	278	394	2700	1320	810	1090	1130	1310	1040
11	262	51	374	296	418	3030	1320	790	1090	1190	1270	1030
12	250	50	377	374	426	3680	1320	795	1100	1200	1300	1000
13	258	48	387	341	466	3400	1320	800	1150	1230	1330	487
14	275	47	404	282	1190	3280	1310	800	1180	1250	1700	698
15	299	47	412	184	3860	3180	1210	810	1190	1250	1390	918
16	308	47	429	168	5500	3080	963	816	1230	1240	1330	876
17	314	48	436	162	1700	2980	1150	816	1240	1230	1310	858
18	317	48	440	176	1800	2990	1130	816	1230	1220	1300	828
19	311	49	469	489	1500	3020	1100	816	1220	1240	1290	755
20	314	49	456	538	2900	2600	1130	800	1210	1380	1280	710
21	338	50	432	426	2500	2610	1150	775	1210	1270	1270	670
22	335	52	436	371	1590	2790	1120	795	1210	1270	1250	630
23	326	132	432	270	1240	2810	1120	810	1210	1280	1250	560
24	320	167	432	192	1180	2820	1130	852	1210	1260	1270	494
25	317	176	426	173	1070	1010	1130	882	1210	1220	1300	478
26	207	185	443	158	1220	296	1130	918	1210	1200	1280	462
27	122	190	482	121	1550	240	1100	966	1200	1200	1250	454
28	103	190	450	110	1780	953	1070	972	1180	1200	1250	450
29	86	190	432	104	1950	1270	1050	966	1180	1230	1250	412
30	71	191	385	173	---	1280	1020	966	1180	1240	1230	404
31	66	---	292	236	---	1270	---	972	---	1240	1200	---
TOTAL	8737	2552	11322	7693	36312	71409	36223	26474	34146	37740	39900	23773
MEAN	282	85.1	365	248	1252	2304	1207	854	1138	1217	1287	792
MAX	422	191	482	538	5500	3680	1390	1010	1240	1380	1700	1200
MIN	66	47	162	104	158	240	963	775	936	1130	1200	404
AC-FT	17330	5060	22460	15260	72020	141600	71850	52510	67730	74860	79140	47150

CAL YR 1979 TOTAL 325940 MEAN 893 MAX 8580 MIN 47 AC-FT 646500
WTR YR 1980 TOTAL 336281 MEAN 919 MAX 5500 MIN 47 AC-FT 667000

09474000 GILA RIVER AT KELVIN, AZ--Continued

WATER-QUALITY RECORDS

LOCATION.--Water samples collected at Florence-Kelvin road bridge 200 ft (60 m) upstream from Mineral Creek, and 700 ft (200 m) upstream from gaging station.

PERIOD OF RECORD.--December 1950 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to September 1976.
WATER TEMPERATURES: December 1950 to September 1976.
SUSPENDED-SEDIMENT DISCHARGE: January 1958 to September 1976.

REMARKS.--No inflow from Mineral Creek between sampling point and gaging station except during infrequent periods of heavy local rains. Unpublished daily specific conductance measurements for period December 1950 to September 1964 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
FEB												
22...	1130	1600	890	7.9	14.5	250	10.4	55	147	975	260	110
MAR												
20...	1130	1590	930	7.8	15.5	82	9.5	32	29	360	200	47
APR												
02...	1030	1250	915	7.9	14.0	36	9.0	25	25	225	210	61
MAY												
05...	1030	1250	828	7.9	22.0	25	7.9	16	105	105	220	72
JUN												
03...	1100	914	800	8.0	13.0	18	5.4	16	162	125	180	53
JUL												
02...	1130	1180	775	8.0	19.5	24	--	10	333	180	170	31
AUG												
01...	1110	1340	960	7.9	20.5	580	7.6	44	--	5800	280	140
SEP												
03...	1030	999	825	8.2	19.5	32	8.3	17	100	153	180	43

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
FEB												
22...	71	19	55	1.5	3.4	150	140	58	.5	30	495	471
MAR												
20...	54	15	110	3.4	4.3	150	120	130	.9	20	566	546
APR												
02...	58	16	110	3.3	4.3	150	130	120	.9	21	563	552
MAY												
05...	61	17	110	3.2	4.6	150	130	130	1.0	22	592	568
JUN												
03...	50	14	100	3.2	4.1	130	100	120	.9	21	497	490
JUL												
02...	47	13	100	3.3	4.4	140	81	110	1.1	19	476	461
AUG												
01...	87	14	94	2.5	5.3	140	180	100	1.0	19	627	587
SEP												
03...	50	14	100	3.2	4.4	140	89	130	.9	21	469	494

GILA RIVER BASIN

09474000 GILA RIVER AT KELVIN, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
FEB												
22...	.67	1610	.79	.06	.04	.07	.88	.20	.94	.70	.24	1.7
MAR												
20...	.77	1480	.28	.00	.00	.00	1.1	.71	1.1	.39	.71	1.4
APR												
02...	.77	660	.33	.04	.04	.05	1.8	1.2	1.8	.60	1.2	2.1
MAY												
05...	.81	680	.36	.10	.06	.12	6.1	.38	--	.27	.44	1.1
JUN												
03...	.68	662	.33	.13	.00	.16	.65	.58	.78	.20	.58	1.1
JUL												
02...	.65	588	.20	.01	.00	.01	.73	.40	.74	.34	.40	.99
AUG												
01...	.85	1970	.49	.04	.00	.05	1.8	1.3	1.8	.50	1.3	2.3
SEP												
03...	.64	695	.14	.00	.00	.00	.77	.74	.77	.03	.74	.87

DATE	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
FEB												
22...	1.0	7.7	1.000	3.1	.080	.08	.25	6	3	500	50	130
MAR												
20...	.99	6.1	.570	1.7	.060	.07	.21	4	--	200	--	160
APR												
02...	1.5	9.4	.430	1.3	.070	.05	.15	6	--	300	--	150
MAY												
05...	.80	4.8	.190	.58	.070	.10	.31	4	4	200	60	150
JUN												
03...	.91	5.0	.180	.55	.090	.06	.18	4	--	100	--	120
JUL												
02...	.60	4.4	.200	.61	.110	.10	.31	5	--	<100	--	120
AUG												
01...	1.8	10	1.100	3.4	.210	.13	.40	7	5	300	70	190
SEP												
03...	.88	3.9	.190	.58	.160	.14	.43	5	--	100	--	50

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPRER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
FEB												
22...	--	3	<1	30	0	16	<3	170	10	25000	20	44
MAR												
20...	--	0	--	30	--	--	--	110	--	19000	60	29
APR												
02...	--	1	--	0	--	--	--	16	--	5900	20	9
MAY												
05...	120	1	<1	0	0	4	<3	36	21	4600	<10	7
JUN												
03...	--	1	--	0	--	--	--	21	--	4000	20	6
JUL												
02...	--	1	--	10	--	--	--	26	--	1200	10	20
AUG												
01...	--	0	<1	30	20	19	<3	600	8	30000	10	44
SEP												
03...	--	0	--	10	--	--	--	31	--	2300	20	7

< Actual value is known to be less than value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)
FEB											
22...	9	1000	5	.2	.0	35	0	1	1	0	0
MAR											
20...	--	700	10	.1	--	--	--	0	--	0	--
APR											
02...	--	250	5	.0	--	--	--	0	--	0	--
MAY											
05...	5	220	7	.1	.0	9	3	0	0	0	--
JUN											
03...	--	220	4	.4	--	--	--	0	--	0	--
JUL											
02...	--	130	4	.2	--	--	--	0	--	0	--
AUG											
01...	1	1300	4	.1	.0	33	0	1	0	7	0
SEP											
03...	--	200	10	.0	--	--	--	0	--	0	--

DATE	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)
FEB											
22...	20	10	17	--	--	.00	0	--	--	--	--
MAR											
20...	130	--	9.3	--	--	.00	1	--	--	--	--
APR											
02...	40	--	9.2	--	--	.00	†9	--	--	--	--
MAY											
05...	70	<3	9.8	8.7	.2	.00	0	--	--	--	--
JUN											
03...	30	--	10	--	--	.00	1	--	--	--	--
JUL											
02...	80	--	7.7	--	--	.00	†10	--	--	--	--
AUG											
01...	170	8	25	12	5.2	.00	3	.079	.079	.000	.000
SEP											
03...	40	--	7.9	--	--	--	†11	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .002 MM
FEB							
22...	1130	1600	14.5	2720	11800	--	11
MAR							
20...	1130	1590	15.5	1270	5450	--	--
APR							
02...	1030	1250	14.0	429	1450	--	--
MAY							
05...	1030	1250	22.0	289	975	--	--
JUN							
03...	1100	914	13.0	919	2270	--	--
JUL							
02...	1130	1180	19.5	283	902	56	--
AUG							
01...	1110	1340	20.5	1610	5830	--	--
SEP							
03...	1030	999	19.5	285	769	34	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM
FEB							
22...	13	23	40	65	84	98	100
MAR							
20...	--	--	--	--	--	--	--
APR							
02...	--	--	--	--	--	--	--
MAY							
05...	--	--	--	--	--	--	--
JUN							
03...	--	--	--	--	--	--	--
JUL							
02...	--	--	--	--	--	--	--
AUG							
01...	--	--	--	--	--	--	--
SEP							
03...	--	--	--	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
FEB											
22...	1130	1600	14.5	2	15	62	86	90	92	98	100

09474000 GILA RIVER AT KELVIN, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	FEB 8,80		MAR 20,80		MAY 5,80		JUN 3,80		AUG 1,80	
TIME	1130		1130		1100		1100		1035	
TOTAL CELLS/ML	26		260		620		1400		3200	
DIVERSITY: DIVISION	0.0		0.9		0.5		1.3		1.1	
.CLASS	0.0		0.9		0.5		1.3		1.1	
..ORDER	1.0		1.1		0.8		1.4		1.3	
...FAMILY	1.0		2.9		2.8		2.0		1.6	
....GENUS	1.0		2.9		3.0		2.5		1.6	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	29	11	41	7	41	3	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	--	-	--	-	82	6	--	-
..TETRASPORALES										
...COCCOMYXACEAE										
....PLAKATOTHRIX	--	-	--	-	--	-	27	2	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	14	6	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	13#	50	--	-	14	2	--	-	--	-
....MELOSIRA	--	-	--	-	27	4	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	14	6	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	14	2	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	29	11	110#	18	55	4	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	14	2	--	-	--	-
....FRAGILARIA	--	-	--	-	69	11	69	5	--	-
....SYNEDRA	13#	50	14	6	14	2	--	-	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	--	-	41	7	27	2	--	-
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	--	-	14	1	--	-
....NAVICULA	--	-	72#	28	41	7	27	2	410	13
....NEIDIUM	--	-	--	-	--	-	14	1	--	-
...NITZSCHIACEAE										
....NITZSCHIA	--	-	57#	22	210#	33	110	8	410	13
...SURIRELLACEAE										
....SURIRELLA	--	-	14	6	14	2	14	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	14	1	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	140	4
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	14	2	--	-	--	-
....COCCOCHLORIS	--	-	--	-	--	-	--	-	140	4
..HORMOGONALES										
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	750#	54	--	-
....OSCILLATORIA	--	-	--	-	--	-	140	10	2100#	65
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	14	6	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09474000 GILA RIVER AT KELVIN, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	AUG 1,80		AUG 1,80		SEP 3,80		SEP 3,80		SEP 3,80	
TIME	1110		1135		1025		1030		1035	
TOTAL CELLS/ML	2600		7200		51		230		660	
DIVERSITY: DIVISION	1.0		0.1		0.0		0.7		0.5	
.CLASS	1.0		0.1		0.0		0.7		0.5	
..ORDER	1.2		0.4		0.8		0.7		0.5	
...FAMILY	1.6		0.6		1.5		0.7		0.5	
....GENUS	1.6		0.6		1.5		0.7		0.5	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	--	-	--	-	26	9	26	4
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	--	-	13#	25	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	--	-	--	-
....FRAGILARIA	--	-	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	72	1	--	-	--	-	13	2
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-
....NAVICULA	270	11	72	1	26#	50	--	-	--	-
....NEIDIUM	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	1100#	42	--	-	13#	25	13	5	13	2
...SURIRELLACEAE										
....SURIRELLA	--	-	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	290	4	--	-	--	-	--	-
....COCCOCHLORIS	140	5	--	-	--	-	--	-	--	-
..HORMOGONALES										
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	1100#	42	6500#	90	--	-	240#	86	600#	92
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	290	4	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09475000 GILA RIVER AT ASHURST-HAYDEN DAM, NEAR FLORENCE, AZ

LOCATION.--Lat 33°05'59", long 111°14'46", in SW¼NW¼ sec.8, T.4 S., R.11 E., Pinal County, Hydrologic Unit 15050100, on left bank at Ashurst-Hayden Dam, 9 mi (14 km) northeast of Florence.

DRAINAGE AREA.--18,305 mi^2 (47,410 km^2).

PERIOD OF RECORD.--July 1923 to September 1980 (discontinued), (head on crest of dam only). Records of monthly diversions to Florence-Casa Grande Canal, January 1928 to current year.

GAGE.--Gila River: Water-stage recorder. Permanent crest of dam is 1,563.00 ft (476.402 m) National Geodetic Vertical Datum of 1929. For normal operation, crest is raised to 1,566.00 ft (477.317 m) by 3.0 ft (0.91 m) gates. Prior to December 1960, permanent crest at 1,562.6 ft (476.28 m) and normally raised about 1.2 ft (0.37 m) by use of flashboards. Prior to Apr. 12, 1932, nonrecording gage at same site and datum.
09475500. Florence-Casa Grande Canal: Water-stage recorder and Parshall flume at China Wash 2.6 mi (4.2 km) downstream from dam. Prior to Jan. 12, 1937, water-stage recorder 900 ft (270 m) downstream from dam.

REMARKS.--Records show daily mean head on dam and monthly diversions to Florence-Casa Grande Canal. Mean head is often not representative of flow passing dam because of sluiceway and crest-gate openings. Florence-Casa Grande Canal diverts water at dam supplemented by pumping from ground water for irrigation of land under 100,000-acre (400-km^2) San Carlos project. Canal records adjusted for sluicing through the dam or from the canal and pumping (but not natural losses), to show water available at dam, except for flow through dam or spillover dam during times of flood runoff. Flow regulated by San Carlos Reservoir. (See sta 09469000.) Diversions above station for irrigation of about 82,000 acres (330 km^2), a considerable portion of which is irrigated by pumping from ground water.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

EXTREMES FOR PERIOD OF RECORD.--Maximum head on dam, 8.0 ft (2.44 m) Sept. 28, 1926; no flow over dam most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum head on dam, 1.62 ft (0.494 m) Feb. 15, 2000 hours; no flow over dam for most of year.

DAILY MEAN HEAD, IN FEET, OVER DAM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0.05	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	e
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	.01	0	0	0	0	.01	0
11	0	0	0	0	0	.23	0	0	0	0	e	0
12	0	0	0	0	0	.68	0	0	0	0	.04	0
13	0	0	0	0	0	.46	0	0	0	0	.07	0
14	0	0	0	0	0	.07	0	0	0	0	.64	0
15	0	0	0	0	.49	.07	0	0	0	0	.22	0
16	0	0	0	0	1.32	.25	0	0	0	0	.09	0
17	0	0	0	0	.15	.27	0	0	0	0	.01	0
18	0	0	0	0	.25	.15	0	0	0	0	0	0
19	0	0	0	e	.04	.01	0	0	0	0	0	0
20	0	0	0	0	.34	e	0	0	0	.09	0	0
21	0	0	0	0	.32	.04	0	0	0	.04	0	0
22	0	0	0	0	0	.13	0	0	0	e	0	0
23	0	0	0	0	0	.21	0	0	0	0	0	0
24	0	0	0	0	0	.21	0	0	0	0	0	0
25	0	0	0	0	0	e	0	0	0	0	e	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	-----	0	0	0	0	0	0	0
31	0	-----	0	0	-----	0	-----	0	-----	0	0	-----

e Flow over crest of dam for short time, but mean for day less than 0.01 ft.

09475000 GILA RIVER AT ASHURST-HAYDEN DAM, NEAR FLORENCE, AZ--Continued

MONTHLY DIVERSIONS TO FLORENCE-CASA GRANDE CANAL
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Discharge, in cubic feet per second			Diversions in acre-feet	Water sluiced above flume (acre-feet)
	Maximum	Minimum	Mean		
October	394	0	247	15,220	0
November	180	0	41	2,440	0
December	472	132	334	20,550	0
CAL YR 1979	1,260	0	580	421,680	*
January	442	120	248	15,250	0
February	854	154	451	25,950	†1,030
March	1,010	95	763	46,890	† 196
April	1,120	789	986	58,690	† 716
May	877	608	707	43,480	0
June	1,060	738	900	53,550	0
July	1,130	907	1,040	64,100	0
August	1,220	970	1,100	67,800	† 113
September	1,020	346	717	42,690	0
WTR YR 1980	1,220	0	628	456,600	2,060

† Included in first four columns of table.
* Amount unknown because sluice open much of time.

NOTE.--Diversion records are those at canal gaging station at flume 2.6 mi (4.2 km) downstream from dam; values are adjusted for sluicing through the dam or from canal and pumping between intake and flume, but are not adjusted for natural losses. Adjusted values show water available at Ashurst-Hayden Dam, except for spill over the dam or water sluiced through the dam during times of flood runoff.

09479500 GILA RIVER NEAR LAVEEN, AZ

LOCATION.--Lat 33°15'25", long 112°09'59", in SW¼NW¼ sec.16, T.2 S., R.2 E., Pinal County, Hydrologic Unit 15050100, in Gila River Indian Reservation, on left abutment of highway bridge, 2.1 mi (3.4 km) upstream from Santa Cruz River, 2.6 mi (4.2 km) south of Komatke, and 7.3 mi (11.7 km) south of Laveen.

DRAINAGE AREA.--20,615 mi^2 (53,393 km^2), of which 696 mi^2 (1,803 km^2) is in Mexico.

PERIOD OF RECORD.--January 1940 to September 1946, December 1947 to current year.

GAGE.--Water-stage recorder above concrete diversion dam. Datum of gage is 1,018.90 ft (310.561 m) National Geodetic Vertical Datum of 1929. Since July 9, 1969, supplementary water-stage recorder on overflow channel at highway bridge 0.2 mi (0.3 km) south at same datum. Oct. 16, 1940, to July 8, 1969, supplementary staff gage or water-stage recorder on overflow channel at datum 0.23 ft (0.070 m) lower.

REMARKS.--Records fair. Records include flow over dam and in overflow channel. Large diversions above station for irrigation. Some low flow is waste water from irrigated lands. Flow partly regulated by storage in San Carlos Reservoir. (See elsewhere in this report.)

AVERAGE DISCHARGE.--38 years (water years 1941-46, 1949-80), 27.0 ft^3/s (0.765 m^3/s), 19,560 acre-ft/yr (24.1 hm^3/yr); median of yearly mean discharges, 14 ft^3/s (0.40 m^3/s) 10,100 acre-ft/yr (12 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft^3/s (337 m^3/s) Jan. 2, 1941, gage height, 9.33 ft (2.844 m); maximum gage height, 10.20 ft (3.109 m) Dec. 21, 1978; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 545 ft^3/s (15.4 m^3/s), 0830 hours, Feb. 23, gage height, 7.49 ft (2.283 m), no peak above base of 700 ft^3/s (20 m^3/s); minimum daily, 1.2 ft^3/s (0.034 m^3/s) Nov. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	8.6	6.4	3.6	3.6	17	20	9.0	3.4	2.1	6.5	5.9
2	12	8.6	5.8	3.6	3.6	167	21	8.6	4.2	1.9	8.1	7.5
3	11	8.6	6.3	3.6	2.8	245	21	4.8	4.9	2.3	4.8	8.8
4	13	8.6	6.2	3.6	2.6	249	21	5.5	4.4	2.8	5.3	9.8
5	13	8.6	5.0	3.6	2.9	270	21	6.2	1.7	2.0	5.2	14
6	12	8.6	5.3	3.6	4.2	303	21	6.9	3.0	1.9	2.2	5.0
7	14	8.6	5.5	3.6	4.3	186	21	7.7	2.4	2.7	3.6	5.0
8	15	8.6	5.4	3.6	4.6	17	19	6.5	2.0	2.9	4.6	4.7
9	13	8.2	5.0	3.6	4.6	132	18	5.6	1.7	3.4	5.0	4.5
10	15	7.1	6.5	3.6	4.6	445	18	4.1	1.3	3.7	7.1	3.8
11	14	6.1	5.4	3.6	4.6	518	18	4.0	1.3	5.2	3.3	7.1
12	18	6.2	4.6	3.7	4.6	509	18	5.5	1.6	6.3	5.1	7.6
13	20	10	4.5	3.3	3.8	516	18	4.0	1.3	6.0	4.5	6.4
14	18	9.0	3.6	3.6	10	531	18	4.2	1.3	4.9	4.4	5.2
15	12	9.4	3.6	3.6	5.4	534	18	5.0	2.2	4.2	5.4	3.3
16	10	8.0	3.1	3.6	8.9	529	16	4.2	1.4	5.3	6.1	3.6
17	11	8.1	4.1	3.6	4.8	509	15	3.4	1.5	2.5	4.9	2.9
18	10	9.7	4.6	4.2	315	493	15	2.9	1.2	5.2	6.7	2.2
19	10	7.6	5.2	3.8	444	482	15	3.4	1.2	5.1	7.2	2.6
20	10	7.5	4.7	5.7	466	480	14	3.1	1.3	3.3	9.3	2.6
21	10	8.6	4.8	6.4	491	451	14	1.9	1.7	3.2	7.5	3.2
22	10	8.5	5.8	3.9	526	305	13	2.6	2.2	7.7	7.9	3.6
23	10	6.0	5.8	3.9	495	373	13	3.9	1.6	7.7	5.9	3.6
24	10	5.3	6.3	3.9	137	416	12	4.6	1.7	7.4	5.1	3.0
25	9.6	4.4	7.0	3.6	6.3	382	12	4.5	2.3	10	4.7	2.6
26	10	3.3	5.8	2.7	3.0	276	11	3.1	2.2	13	5.2	3.6
27	10	1.4	5.7	2.6	2.6	28	11	2.7	1.7	4.4	4.6	4.6
28	10	1.2	4.6	2.6	2.6	25	10	2.6	2.1	4.1	7.1	4.2
29	10	6.4	4.6	2.7	3.9	23	10	2.9	2.7	5.0	8.9	5.0
30	9.5	6.9	4.6	3.1	---	23	9.0	4.5	3.3	5.7	8.1	5.8
31	10	---	4.6	3.6	---	22	---	5.6	---	5.2	7.3	---
TOTAL	373.1	217.7	160.4	113.7	2972.3	9456	481.0	143.5	64.8	147.1	181.6	151.7
MEAN	12.0	7.26	5.17	3.67	102	305	16.0	4.63	2.16	4.75	5.86	5.06
MAX	20	10	7.0	6.4	526	534	21	9.0	4.9	13	9.3	14
MIN	9.5	1.2	3.1	2.6	2.6	17	9.0	1.9	1.2	1.9	2.2	2.2
AC-FT	740	432	318	226	5900	18760	954	285	129	292	360	301

CAL YR 1979 TOTAL 53309.13 MEAN 146 MAX 6160 MIN .00 AC-FT 105700
WTR YR 1980 TOTAL 14462.90 MEAN 39.5 MAX 534 MIN 1.2 AC-FT 28690

GILA RIVER BASIN

09480000 SANTA CRUZ RIVER NEAR LOCHIEL, AZ

LOCATION.--Lat 31°21'19", long 110°35'20", in SW¼ sec.11, T.24 S., R.17 E. (unsurveyed), Santa Cruz County, Hydrologic Unit 15050301, on southern border of Spanish land grant of San Rafael, near left bank on downstream side of pier of bridge on county road, 1.7 mi (2.7 km) upstream from international boundary and 2.5 mi (4.0 km) northeast of Lochiel.

DRAINAGE AREA.--82.2 mi^2 (212.9 km^2).

PERIOD OF RECORD.--January 1949 to current year.

REVISED RECORDS.--WSP 1733: 1951.

GAGE.--Water-stage recorder. Altitude of gage is 4,620 ft (1,408 m), from topographic map.

REMARKS.--Records fair. Small diversions for irrigation of 200 acres (809,000 m^2) above station, mostly by pumping from ground water.

AVERAGE DISCHARGE.--31 years, 3.29 ft^3/s (0.093 m^3/s), 2,380 acre-ft/yr (2.93 hm^3/yr); median of yearly mean discharges, 2.0 ft^3/s (0.06 m^3/s), 1,400 acre-ft/yr (1.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft^3/s (340 m^3/s) Oct. 9, 1977, gage height, 10.21 ft (3.112 m), from rating curve extended above 1,600 ft^3/s (45 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 406 ft^3/s (11.5 m^3/s) June 30, 1715 hours, gage height, 4.28 ft (1.305 m), no peak above base of 500 ft^3/s (14 m^3/s); no flow Sept. 20-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	.69	.73	.69	.66	.60	.59	.37	.20	1.5	.10	.06
2	.58	.64	.73	.69	.64	.60	.61	.35	.23	.18	.10	.05
3	.57	.64	.73	.69	.64	.60	.62	.36	.19	.15	15	.06
4	.58	.64	.73	.69	.69	.60	.62	.33	.19	.15	1.0	.05
5	.58	.64	.73	.64	.69	.60	.62	.33	.17	.12	.50	.04
6	.58	.60	.78	.62	.69	.60	.63	.33	.15	.13	.20	.03
7	.58	.60	.78	.60	.69	.60	.64	.31	.10	.16	.20	3.2
8	.58	.63	.78	.60	.72	.60	.62	.30	.05	.15	.10	.50
9	.59	.64	.78	.61	.69	.60	.62	.29	.08	.11	.20	.05
10	.59	.60	.80	.64	.73	.60	.62	.30	.06	.13	1.0	.04
11	.59	.60	.83	.64	.73	.60	.60	.29	.03	.08	.50	.05
12	.59	.60	.83	.63	.73	.60	.61	.32	.09	.04	.10	.06
13	.60	.60	.83	.57	.76	.58	.58	.35	.15	.10	.50	.05
14	.65	.56	.78	.56	.81	.56	.60	.36	.17	.04	1.0	.05
15	.65	.56	.78	.57	1.0	.55	.58	.36	.18	.02	.50	.04
16	.64	.56	.78	.56	.80	.54	.53	.35	.18	.02	.10	.04
17	.64	.56	.78	.56	.75	.53	.51	.34	.18	.05	.10	.04
18	.64	.58	.78	.56	.70	.51	.45	.32	.17	.07	.10	.02
19	.65	.60	.78	.59	.70	.55	.44	.32	.17	.09	.10	.01
20	.65	.66	.78	.58	.68	.56	.45	.30	.17	.09	.10	.00
21	.67	.69	.78	.60	.68	.56	.42	.26	.16	.09	.09	.00
22	.66	.69	.73	.60	.66	.57	.39	.20	.17	.09	.08	.00
23	.66	.69	.73	.58	.66	.59	.39	.20	.16	.08	.07	.00
24	.67	.69	.73	.59	.64	.59	.38	.20	.16	.10	.06	.90
25	.66	.69	.73	.62	.60	.59	.41	.22	.15	.09	.06	.07
26	.66	.69	.73	.60	.60	.60	.41	.26	.15	.08	.05	.08
27	.64	.69	.73	.60	.60	.63	.42	.25	.15	.08	.05	.06
28	.66	.73	.73	.60	.60	.60	.39	.25	.14	.08	.05	.06
29	.67	.73	.69	.60	.60	.61	.39	.27	.14	.08	.06	.08
30	.69	.73	.69	.64	---	.59	.40	.27	23	.10	.07	.08
31	.69	---	.69	.67	---	.60	---	.21	---	.10	.06	---
TOTAL	19.44	19.22	23.48	18.99	20.14	18.11	15.54	9.17	27.29	4.35	22.20	5.77
MEAN	.63	.64	.76	.61	.69	.58	.52	.30	.91	.14	.72	.19
MAX	.69	.73	.83	.69	1.0	.63	.64	.37	23	1.5	15	3.2
MIN	.57	.56	.69	.56	.60	.51	.38	.20	.03	.02	.05	.00
AC-FT	39	38	47	38	40	36	31	18	54	8.6	44	11

CAL YR 1979 TOTAL 2314.85 MEAN 6.34 MAX 395 MIN .42 AC-FT 4590
WTR YR 1980 TOTAL 203.70 MEAN .56 MAX 23 MIN .00 AC-FT 404

NOTE.--No gage-height record Feb. 14 to Mar. 18, July 26 to Aug. 27.

09480500 SANTA CRUZ RIVER NEAR NOGALES, AZ

LOCATION.--Lat 31°20'40", long 110°51'03", in NW¼ sec.18, T.24 S., R.15 E. (unsurveyed), Santa Cruz County, Hydrologic Unit 15050301, in Spanish land grant of Maria Santisima del Carmen, on left bank 0.8 mi (1.3 km) downstream from international boundary and 5.5 mi (8.8 km) east of Nogales.

DRAINAGE AREA.--533 mi^2 (1,380 km^2), of which 348 mi^2 (901 km^2) is in Mexico.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to November 1907 and April 1909 to December 1912 (discharge measurements and fragmentary gage-height record), January 1913 to June 1922 (October 1915 to September 1916 monthly discharge only), May 1930 to December 1933, July 1935 to current year. Water-year estimates for 1913, 1915-16, 1920-22, 1930, 1934-35, published in WSP 1733.

REVISED RECORDS.--WSP 959: 1935(M). WSP 1213: 1915-16, 1930-32(M), 1934(M), 1936-37(M). WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,702.54 ft (1,128.534 m) National Geodetic Vertical Datum of 1929 (levels by International Boundary and Water Commission). Prior to June 30, 1922, nonrecording gage or water-stage recorder at various sites 5 to 6 mi (8 to 10 km) downstream at different datums.

REMARKS.--Records fair. Diversions above station of about 4,300 acre-ft/yr (5.30 hm^3/yr) for irrigation of about 2,150 acres (8.7 km^2) in Mexico in 1977. Diversion 19 mi (31 km) upstream for municipal supply of city of Nogales, Sonora, began in 1949; diversion in 1968 totaled 3,500 acre-ft/yr (4.32 hm^3/yr).

AVERAGE DISCHARGE.--61 years (water years 1913-22, 1930-80), 25.7 ft^3/s (0.728 m^3/s), 18,620 acre-ft/yr (23.0 hm^3/yr); median of yearly mean discharges, 19 ft^3/s (0.54 m^3/s), 13,800 acre-ft/yr (17.0 hm^3/yr).

EXTREMES FOR PERIOD 1930-80.--Maximum discharge, 31,000 ft^3/s (878 m^3/s) Oct. 9, 1977, gage height, 15.5 ft (4.72 m), from rating curve extended above 1,660 ft^3/s (47.0 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,950 ft^3/s (55.2 m^3/s) Aug. 9, 1600 hours, gage height, 6.52 ft (1.987 m), no peak above base of 2,000 ft^3/s (57 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.00	1.6	2.8	6.4	4.5	.80	.20	.00	7.7	5.0	.00
2	.40	.00	1.6	3.5	6.4	4.5	1.1	.20	.00	.00	2.0	.00
3	.40	.00	1.6	3.5	6.4	5.4	.80	.20	.00	.00	53	14
4	.40	.00	2.3	3.5	6.1	4.8	.70	.20	.00	.00	166	21
5	.40	.00	3.0	3.5	5.8	4.8	.70	.10	.00	.00	4.0	8.0
6	.40	.00	3.3	3.7	5.4	4.1	.70	.10	.00	.00	2.0	8.5
7	.30	.00	3.7	4.1	5.8	4.6	.70	.10	.00	.00	.50	35
8	.30	.10	3.0	4.4	8.0	4.8	.60	.00	.00	.00	.00	5.1
9	.20	.00	3.5	3.0	7.4	4.6	.40	.00	.00	.00	53	4.8
10	.20	.00	4.1	3.0	6.4	5.8	.40	.00	.00	.00	40	3.9
11	.10	.00	4.1	4.4	5.8	6.7	.40	.00	.00	.00	37	2.6
12	.10	.00	4.6	4.4	6.4	5.4	.40	.00	.00	.00	8.0	2.0
13	.00	.00	4.4	3.3	7.0	4.6	.40	.00	.00	.00	68	1.5
14	.00	.00	3.7	4.1	9.5	3.7	.40	.00	.00	.00	40	1.0
15	.00	.00	3.5	5.1	20	3.7	.40	.00	.00	.00	7.7	1.0
16	.00	.00	3.5	4.9	11	3.7	.30	.00	.00	.00	2.2	.50
17	.00	.00	3.9	4.4	8.0	3.7	.30	.00	.00	.00	1.3	.50
18	.00	.00	3.9	4.1	7.4	4.4	.30	.00	.00	.00	.90	.20
19	.00	.10	3.7	3.7	7.4	3.5	.30	.00	.00	.00	.90	.20
20	.00	.70	4.1	3.9	7.0	4.1	.20	.00	.00	.00	.90	.10
21	.00	.80	3.9	4.8	6.4	3.5	.20	.00	.00	.00	.50	.00
22	.00	1.3	2.5	5.1	6.4	3.0	.20	.00	.00	.00	.50	.00
23	.00	1.1	2.6	4.6	5.4	3.0	.30	.00	.00	.00	1.3	.00
24	.00	1.1	3.5	4.6	5.4	2.8	.20	.00	.00	.00	2.2	.00
25	.00	1.3	3.5	5.4	4.8	2.1	.20	.00	.00	.00	1.8	.00
26	.00	1.3	3.9	5.8	4.5	2.2	.20	.00	.00	.00	.50	.00
27	.00	1.3	2.8	6.1	4.5	2.0	.20	.00	.00	.00	.20	.00
28	.00	1.6	2.5	6.7	4.5	1.7	.10	.00	.00	.00	.20	.00
29	.00	1.6	2.2	6.4	4.5	1.1	.20	.00	.00	.00	.20	.00
30	.00	1.6	2.3	6.1	---	1.0	.20	.00	26	.00	.00	.00
31	.00	---	2.6	6.7	---	1.0	---	.00	---	15	.00	---
TOTAL	3.60	13.90	99.4	139.6	200.0	114.8	12.30	1.10	26.00	22.70	499.80	109.90
MEAN	.12	.46	3.21	4.50	6.90	3.70	.41	.035	.87	.73	16.1	3.66
MAX	.40	1.6	4.6	6.7	20	6.7	1.1	.20	26	15	166	35
MIN	.00	.00	1.6	2.8	4.5	1.0	.10	.00	.00	.00	.00	.00
AC-FT	7.1	28	197	277	397	228	24	2.2	52	45	991	218

CAL YR 1979 TOTAL 24334.45 MEAN 66.7 MAX 3060 MIN .00 AC-FT 48270
WTR YR 1980 TOTAL 1243.10 MEAN 3.40 MAX 166 MIN .00 AC-FT 2470

09480500 SANTA CRUZ RIVER NEAR NOGALES, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1970 to September 1980 (discontinued).

REMARKS.--Records of temperature, specific conductance, and suspended-sediment concentration of individual samples available in district office at Tucson, Ariz.

MONTHLY AND ANNUAL SUMMARY OF SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Suspended-sediment discharge (tons)
October 1979	1.28
November	1.90
December	17.36
January 1980	18.86
February	107.26
March	35.84
April	4.04
May	.03
June	1,260
July	226
August	24,018.87
September	2,659.86
Total for year	28,351.30

09482000 SANTA CRUZ RIVER AT CONTINENTAL, AZ

LOCATION.--Lat 31°51'12", long 110°58'40", in NE¼NE¼ sec.23, T.18 S., R.13 E. (unsurveyed), Pima County, Hydrologic Unit 15050301, in Spanish land grant of San Ignacio de la Canoa, near left bank on downstream side of pier of highway bridge at Continental.

DRAINAGE AREA.--1,662 mi^2 (4,305 km^2), of which 395 mi^2 (1,023 km^2) is in Mexico.

PERIOD OF RECORD.--May 1940 to December 1946, October 1951 to current year.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,832.28 ft (863.279 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 8, 1965, at datum 4.07 ft (1.241 m) higher.

REMARKS.--Records poor. Irrigation above station of about 12,500 acres (50.6 km^2) including about 2,300 acres (9.3 km^2) in Mexico, mostly by pumping from ground water.

AVERAGE DISCHARGE.--35 years, 22.1 ft^3/s (0.626 m^3/s), 16,010 acre-ft/yr (19.7 hm^3/yr); median of yearly mean discharges, 11 ft^3/s (0.31 m^3/s), 8,000 acre-ft/yr (9.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,500 ft^3/s (750 m^3/s) Oct. 9, 1977, gage height, 16.70 ft (5.090 m), from rating curve extended above 18,000 ft^3/s or 510 m^3/s on basis of velocity-area study and runoff comparison with downstream station; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 2,000 ft^3/s (57 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
July 12	2000	2,170	61.5	6.06	1.847
Aug. 25	2130	*2,360	66.8	6.20	1.890

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	55	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	108	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.7	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.50	.40
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	30
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	21	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	181	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	24	56	.00
14	.00	.00	.00	.00	19	.00	.00	.00	.00	.00	78	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	139	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	145	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	216	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	201	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	19.00	.00	.00	.00	.00	344.00	897.20	30.41
MEAN	.000	.000	.000	.000	.66	.000	.000	.000	.000	11.1	28.9	1.01
MAX	.00	.00	.00	.00	19	.00	.00	.00	.00	181	216	30
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	38	.00	.00	.00	.00	682	1780	60

CAL YR 1979 TOTAL 21314.50 MEAN 58.4 MAX 4140 MIN .00 AC-FT 42280
WTR YR 1980 TOTAL 1290.61 MEAN 3.53 MAX 216 MIN .00 AC-FT 2560

09482400 AIRPORT WASH AT TUCSON, AZ

LOCATION.--Lat 32°09'09", long 110°58'52", in NE¼SE¼ sec.2, T.15 S., R.13 E., Pima County, Hydrologic Unit 15050301, 25 ft (7.6 m) upstream from Santa Clara Avenue, 0.7 mi (1.1 km) upstream from mouth, 4.3 mi (6.9 km) downstream from confluence of North and South Forks, and 4.9 mi (7.9 km) south of city hall in Tucson.

DRAINAGE AREA.--23.0 mi^2 (59.6 km^2).

PERIOD OF RECORD.--September 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,460 ft (750 m), from topographic map. Prior to July 1, 1974, at site 1.8 mi (2.9 km) upstream at different datum.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--15 years, 0.42 ft^3/s (0.012 m^3/s), 304 acre-ft/yr (375,000 m^3/yr); median of yearly mean discharges, 0.35 ft^3/s (0.01 m^3/s), 250 acre-ft/yr (308,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 896 ft^3/s (25.4 m^3/s) Sept. 25, 1976, gage height, 2.64 ft (0.805 m), from rating curve extended above 150 ft^3/s (4.25 m^3/s) on basis of critical-depth computations; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 150 ft^3/s or 4.25 m^3/s on basis of critical-depth computations) and peak discharges above base of 150 ft^3/s (4.2 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 24	1515	195	5.52	1.77	0.539
Sept. 6	0200	334	9.46	2.01	0.613
Sept. 7	1530	*378	10.7	2.08	0.634
Sept. 25	2100	156	4.42	1.69	0.515

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	63
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	76
8	.00	.00	.00	.00	4.7	.00	.00	.00	.00	.00	.00	5.5
9	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00	.00	.03
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.00	.00
13	.00	.00	.00	.00	10	.00	.00	.00	.00	.70	15	.00
14	.00	.00	.00	.00	8.0	.00	.00	.00	.00	.00	2.1	.00
15	.00	.00	.00	.00	8.3	.00	.00	.00	.00	.00	5.8	.00
16	.00	.00	.00	.00	1.2	.00	.00	.00	.00	.00	.05	.00
17	.00	.00	.00	.00	6.5	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.4	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	14	5.6
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.16	14
26	.00	.00	.00	.00	.00	5.0	.00	.00	.00	.00	.00	15
27	.00	.00	.00	.00	.00	2.0	.00	.00	.00	.70	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.64	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	1.8	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.97	.00	---
TOTAL	.00	.00	.00	.00	39.70	7.00	.00	.00	.00	11.83	37.11	179.13
MEAN	.000	.000	.000	.000	1.37	.23	.000	.000	.000	.38	1.20	5.97
MAX	.00	.00	.00	.00	10	5.0	.00	.00	.00	4.4	15	76
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	79	14	.00	.00	.00	23	74	355

CAL YR 1979 TOTAL 64.97 MEAN .18 MAX 17 MIN .00 AC-FT 129
WTR YR 1980 TOTAL 274.77 MEAN .75 MAX 76 MIN .00 AC-FT 545

NOTE.--No gage-height record Mar. 17 to Apr. 17.

09482500 SANTA CRUZ RIVER AT TUCSON, AZ

LOCATION.--Lat 32°13'16", long 110°58'52", in NE¼NE¼ sec.14, T.14 S., R.13 E., Pima County, Hydrologic Unit 15050301, on downstream side of center pier of Congress Street Bridge in Tucson.

DRAINAGE AREA.--2,222 mi^2 (5,755 km^2), of which 395 mi^2 (1,023 km^2) is in Mexico, adjusted for 15.2 mi^2 (39.4 km^2) of Tucson Arroyo drainage area contributing to this station effective July 1956.

PERIOD OF RECORD.--October 1905 to current year (monthly discharge only, January 1907 to September 1912, January to September 1914).

REVISED RECORDS.--WSP 859: 1915(M). WSP 1283: Drainage area. WSP 1313: 1939(M).

GAGE.--Water-stage recorder, and, since June 27, 1978, crest-stage gage. Datum of gage is 2,317.82 ft (706.472 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1929, nonrecording gages or reference points for measuring to water surface at various places on bridge at same site and various datums. Nov. 27, 1929, to Oct. 27, 1970, water-stage recorder at present site: at datum 9.08 ft (2.768 m) higher Nov. 27, 1929, to June 18, 1958; at datum 5.08 ft (1.548 m) higher June 18, 1958, to May 21, 1963; at datum 0.62 ft (0.189 m) lower May 21, 1963, to Oct. 27, 1970. No gage Oct. 27, 1970, to Oct. 1, 1971, and Oct. 10, 1977, to Feb. 14, 1979.

REMARKS.--Records fair. Irrigation above station of about 26,000 acres (105 km^2), including about 2,300 acres (9.31 km^2) in Mexico, mostly by pumping from ground water. Ground water is also pumped above the station for municipal supply and mining. Since October 1969 all flow past station is published, including waste water when known.

AVERAGE DISCHARGE.--75 years, 22.8 ft^3/s (0.646 m^3/s), 16,520 acre-ft/yr (20.4 hm^3/yr); median of yearly mean discharges, 14 ft^3/s (0.40 m^3/s), 10,100 acre-ft/yr (12 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,700 ft^3/s (671 m^3/s) Oct. 10, 1977, gage height, 21.8 ft (6.64 m), from flood-marks, from rating curve extended above 4,000 ft^3/s (113 m^3/s) on basis of slope-area measurement of peak flow; no flow for most each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,700 ft^3/s (48 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 13	0800	*2,760	78.2	8.23	2.509	Sept. 7	1630	1,910	54.1	7.62	2.323

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	8.8	.00	.00	.00	8.1	.00
2	.00	.00	.00	.00	.00	.00	2.7	.00	.00	.00	21	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	39	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	11	84
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.50	144
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.1	.20	297
8	.00	3.3	.00	.00	20	.00	.00	.00	.00	.00	.20	39
9	.00	.00	.00	.00	14	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.20	.00	.00	.00	.00	.00	34	.00
11	.00	.00	.00	.30	.00	.70	.00	.00	.00	.70	17	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	13	13	.00
13	.00	.00	.00	.00	83	.00	.00	.00	.00	130	378	.00
14	.00	.00	.00	1.4	355	.00	.00	.00	.00	.00	141	.00
15	.00	.00	.00	.00	54	.00	.00	.00	.00	.00	219	.00
16	.00	.00	.00	.00	2.2	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	22	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	2.6	.00	.00	.00	.30	.00	.00	.00	11	.00	.00
20	.00	4.7	.00	.00	.00	.00	.00	.00	.00	46	.00	.00
21	.00	.00	.00	11	.00	.00	.00	.00	3.7	.00	.00	.00
22	.00	.00	.00	5.3	.00	.00	.00	.00	.00	7.4	.00	.00
23	.00	.00	.00	.50	.00	.00	.00	.00	.00	23	2.8	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.2	148	.00
25	.00	.00	.00	.00	.00	.00	3.5	.00	.00	3.1	55	51
26	.00	.00	.00	.00	.00	8.1	6.6	.00	.00	.00	75	186
27	.00	.00	.00	.00	.00	30	.00	.00	.00	11	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	11	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	2.0	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	6.3	.00	---
TOTAL	.00	10.60	.00	18.50	550.40	39.10	21.60	.00	3.70	269.80	1162.80	801.00
MEAN	.000	.35	.000	.60	19.0	1.26	.72	.000	.12	8.70	37.5	26.7
MAX	.00	4.7	.00	11	355	30	8.8	.00	3.7	130	378	297
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	21	.00	37	1090	78	43	.00	7.3	535	2310	1590

CAL YR 1979 TOTAL 17699.60 MEAN 48.5 MAX 3340 MIN .00 AC-FT 35110
WTR YR 1980 TOTAL 2877.50 MEAN 7.86 MAX 378 MIN .00 AC-FT 5710

09482950 RAILROAD WASH AT TUCSON, AZ

LOCATION.--Lat 32°12'50", long 110°56'45", in NE¼SE¼ sec.18, T.14 S., R.14 E., Pima County, Hydrologic Unit 15050301, on center of culvert on upstream side of Winsett Street in Tucson. Prior to Dec. 11, 1978, at site 200 ft (61 m) upstream.

DRAINAGE AREA.--1.9 mi^2 (4.9 km^2).

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,425 ft (739 m), from topographic map. Prior to Dec. 11, 1978, at site 200 ft (61 m) upstream at different datum.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

AVERAGE DISCHARGE.--5 years, 0.21 ft^3/s (0.006 m^3/s), 152 acre-ft/yr (187,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 312 ft^3/s (8.84 m^3/s) July 11, 1976, gage height, 3.15 ft (0.960 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 100 ft^3/s (2.8 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 21	1600	113	3.20	2.91	0.887	Aug. 14	2200	109	3.09	2.75	0.838
Aug. 13	0430	172	4.87	3.47	1.058	Aug. 23	1400	*222	6.29	3.95	1.204

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.3	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.39	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.42
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.4
8	.00	.25	.00	.00	2.9	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.00
11	.00	.00	.00	.00	.00	.21	.00	.00	.00	.00	.29	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.75	.00
13	.00	.00	.00	.00	5.9	.00	.00	.00	.00	.00	.17	12
14	.00	.00	.00	.00	2.6	.00	.00	.00	.00	.00	.00	4.7
15	.00	.00	.00	.00	2.9	.00	.00	.00	.00	.00	.00	.98
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	2.2	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.18	.00	.18	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.95	.00	.00	.00	.00	4.9	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.7	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	2.6
26	.00	.00	.00	.00	.00	1.1	.00	.00	.00	.00	.00	5.0
27	.00	.00	.00	.00	.00	.61	.00	.00	.00	.18	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.25	.00	1.14	16.56	2.10	.00	.00	4.95	1.13	29.56	9.42
MEAN	.000	.008	.000	.037	.57	.068	.000	.000	.17	.036	.95	.31
MAX	.00	.25	.00	.95	5.9	1.1	.00	.00	4.9	.75	12	5.0
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.5	.00	2.3	33	4.2	.00	.00	9.8	2.2	59	19

CAL YR 1979 TOTAL 24.08 MEAN .066 MAX 6.3 MIN .00 AC-FT 48
WTR YR 1980 TOTAL 65.11 MEAN .18 MAX 12 MIN .00 AC-FT 129

09483000 TUCSON ARROYO AT VINE AVENUE, TUCSON, AZ

LOCATION.--Lat 32°13'00", long 110°56'54", in SW¼NE¼ sec.18, T.14 S., R.14 E., Pima County, Hydrologic Unit 15050301, on right bank at Vine Avenue in Tucson, 0.2 mi (0.3 km) downstream from Arroyo Chico.

DRAINAGE AREA.--8.2 mi^2 (21.2 km^2) since June 1956. Prior to August 1945, 27.0 mi^2 (69.9 km^2). See WSP 1733 for history of progressive reduction of drainage area by flood-control diversion structures.

PERIOD OF RECORD.--June 1944 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,411.9 ft (735.15 m) National Geodetic Vertical Datum of 1929 (city of Tucson bench mark).

REMARKS.--Records good. A flood-control project, at upper end of natural basin, diverts runoff from 3.6 mi^2 (9.3 km^2) into Lakeside Reservoir (Atterbury), which is in Pantano Wash drainage area. Another flood-control project diverts runoff from 15.2 mi^2 (39.4 km^2) near the upper end of basin into a flood-control detention reservoir in SE¼ sec.29, T.14 S., R.14 E., from which reservoir water is released to Julian Wash, which enters Santa Cruz River upstream from Tucson Arroyo. Since October 1969, all flow past the station is published.

AVERAGE DISCHARGE.--8 years (water years 1945-52), 0.68 ft^3/s (0.019 m^3/s), 493 acre-ft/yr (608,000 m^3/yr), representing flow from 23.4 mi^2 (60.6 km^2); 24 years (water years 1957-80), 0.92 ft^3/s (0.026 m^3/s), 667 acre-ft/yr (822,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s (142 m^3/s) Aug. 22, 1961, gage height, 10.35 ft (3.155 m), from rating curve extended above 2,100 ft^3/s (60 m^3/s) on basis of slope-area measurements at gage heights 10.13 and 10.35 ft (3.088 and 3.155 m); no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 300 ft^3/s (8.5 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 13	1830	396	11.2	5.46	1.664	Aug. 13	0530	*816	23.1	6.57	2.002
June 21	1300	412	11.7	5.51	1.679	Aug. 14	2230	533	15.1	5.87	1.789
Aug. 2	0430	460	13.0	5.66	1.725	Aug. 23	1430	734	20.8	6.38	1.945

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	23	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.3	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.3
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.4
8	.00	.65	.00	.00	17	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	1.2	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.0	.00
11	.00	.00	.00	.00	.00	1.3	.00	.00	.00	.00	1.8	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.4	.00	.00
13	.00	.00	.00	.00	42	.00	.00	.00	.00	1.6	80	.00
14	.00	.00	.00	.00	20	.00	.00	.00	.00	.00	19	.00
15	.00	.00	.00	.00	16	.00	.00	.00	.00	.00	5.2	.00
16	.00	.00	.00	.00	.32	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	14	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.10	.42	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.52	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	11	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	23	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	4.1	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.26	.03	7.1
26	.00	.00	.00	.00	.00	4.2	.00	.00	.00	.00	.00	17
27	.00	.00	.00	.00	.00	7.9	.00	.00	.00	.59	.00	.00
28	.00	.00	.00	.00	.00	.02	.00	.00	.00	.06	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.09	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.65	.00	.00	111.15	13.84	.00	.00	11.00	7.07	163.43	27.80
MEAN	.000	.022	.000	.000	3.83	.45	.000	.000	.37	.23	5.27	.93
MAX	.00	.65	.00	.00	42	7.9	.00	.00	11	4.4	80	17
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	1.3	.00	.00	220	27	.00	.00	22	14	324	55

CAL YR 1979 TOTAL 252.70 MEAN .69 MAX 69 MIN .00 AC-FT 501
WTR YR 1980 TOTAL 334.94 MEAN .92 MAX 80 MIN .00 AC-FT 664

09483010 HIGH SCHOOL WASH AT TUCSON, AZ

LOCATION.--Lat 32°13'28", long 110°56'48", in SE¼SE¼ sec.7, T.14 S., R.14 E., Pima County, Hydrologic Unit 15050301, on right bank 200 ft (61 m) upstream from Cherry Avenue in Tucson.

DRAINAGE AREA.--0.95 mi² (2.46 km²).

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder and concrete flume Altitude of gage is 2,415 ft (736 m), from topographic map.

REMARKS.--Entire drainage basin is an urban residential area.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

AVERAGE DISCHARGE.--7 years, 0.100 ft³/s (0.003 m³/s), 72.5 acre-ft/yr (89,400 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 357 ft³/s (10.1 m³/s) Aug. 13, 1980, gage height, 4.38 ft (1.335 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 80 ft³/s (2.3 m³/s):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 21	1600	98	2.78	2.23	0.680
Aug. 13	0430	*357	10.1	4.38	1.335
Aug. 14	2200	131	3.71	2.61	0.796
Aug. 23	1400	209	5.92	3.33	1.015
Sept. 5	1930	215	6.09	3.38	1.030

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.65	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.6
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03
8	.00	.38	.00	.00	1.3	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.3	.00
11	.00	.00	.00	.00	.00	.08	.00	.00	.00	.21	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.00	.00
13	.00	.00	.00	.00	3.8	.00	.00	.00	.00	.01	16	.00
14	.00	.00	.00	.00	1.3	.00	.00	.00	.00	.00	3.7	.00
15	.00	.00	.00	.00	1.6	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.14	.00	.00	.00	.00	1.6	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.7	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.40	.00	3.3
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.3
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.46	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.38	.00	.14	9.00	.14	.00	.00	1.60	2.33	25.42	9.23
MEAN	.000	.013	.000	.005	.31	.005	.000	.000	.053	.075	.82	.31
MAX	.00	.38	.00	.14	3.8	.08	.00	.00	1.6	1.2	16	4.6
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.8	.00	.3	18	.3	.00	.00	3.2	4.6	50	18

CAL YR 1979 TOTAL 27.24 MEAN .075 MAX 7.3 MIN .00 AC-FT 54
WTR YR 1980 TOTAL 48.24 MEAN .13 MAX 16 MIN .00 AC-FT 96

09485390 ATTERBURY WASH TRIBUTARY AT TUCSON, AZ

LOCATION.--Lat 32°11'09", long 110°49'17", in SW¼NW¼ sec.28, T.14 S., R.15 E., Pima County, Hydrologic Unit 15050302, on left bank 500 ft (150 m) downstream from Stella Road in Tucson.

DRAINAGE AREA.--5.13 mi^2 (13.29 km^2).

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 2,710 ft (826 m), from topographic map.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

AVERAGE DISCHARGE.--5 years, 0.16 ft^3/s (0.005 m^3/s), 116 acre-ft/yr (143,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 390 ft^3/s (11.0 m^3/s) Aug. 11, 1977, gage height, 3.70 ft (1.128 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 50 ft^3/s (1.4 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 13	0400	67	1.90	1.58	0.482
Aug. 14	2030	81	2.29	1.72	0.524
Aug. 24	1400	131	3.71	2.14	0.652
Sept. 5	2130	*138	3.91	2.19	0.668

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	14
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.8
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.0
8	.00	.00	.00	.00	3.3	.00	.00	.00	.00	.00	.00	2.9
9	.00	.00	.00	.00	.22	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.83	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.48	.00	.00
13	.00	.00	.00	.00	.50	.00	.00	.00	.00	.20	6.0	.00
14	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00	9.6	.00
15	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00	12	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	1.2	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.33	.00	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.2	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.21
26	.00	.00	.22	.00	.00	1.7	.00	.00	.00	.00	.00	1.8
27	.00	.00	.00	.00	.00	1.1	.00	.00	.00	.00	.17	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.33	.00	.22	.30	7.22	4.13	.00	.00	.00	.85	32.83	30.71
MEAN	.011	.000	.007	.010	.25	.13	.000	.000	.000	.027	1.06	1.02
MAX	.33	.00	.22	.30	3.3	1.7	.00	.00	.00	.48	12	14
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.7	.00	.4	.6	14	8.2	.00	.00	.00	1.7	65	61

CAL YR 1979 TOTAL 21.07 MEAN .058 MAX 5.2 MIN .00 AC-FT 42
WTR YR 1980 TOTAL 76.59 MEAN .21 MAX 14 MIN .00 AC-FT 152

09485550 ARCADIA WASH AT TUCSON, AZ

LOCATION.--Lat 32°14'37", long 110°53'05", in SE¼NW¼ sec.2, T.14 S., R.14 E., Pima County, Hydrologic Unit 15050302, on right bank 150 ft (46 m) downstream from Pima Street in Tucson.

DRAINAGE AREA.--3.49 mi^2 (9.04 km^2).

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 2,485 ft (757 m), from topographic map.

REMARKS.--Entire drainage basin is an urban, residential area.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

AVERAGE DISCHARGE.--5 years, 0.23 ft^3/s (0.007 m^3/s), 167 acre-ft/yr (206,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 661 ft^3/s (18.7 m^3/s) Sept. 21, 1978, gage height, 4.75 ft (1.448 m); no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 100 ft^3/s (2.8 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 10	2100	214	6.06	2.61	0.796
Aug. 13	a0500	*595	16.9	b4.5	1.37

No flow for most of year.
a About.
b From floodmarks.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.01	.00	.00	9.7	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	1.5	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.07	.00	.00	.00	.00	5.8	.00
11	.00	.00	.00	.00	.00	2.7	.00	.00	.00	.24	.72	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.1	.00	.00
13	.00	.00	.00	.00	10	.00	.00	.00	.00	1.9	40	.00
14	.00	.00	.00	.00	9.3	.00	.00	.00	.00	.00	3.6	.00
15	.00	.00	.00	.00	6.4	.00	.00	.00	.00	.00	.85	.00
16	.00	.00	.00	.00	.59	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	5.8	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	1.2	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.09	.00	2.2	.00	.00	.00	.80	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.02	.00	.00	1.6	.00	.00	.00	.00	1.3	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.36	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.8	.00	1.8
26	.00	.00	.00	.00	.00	3.1	.00	.00	.00	.45	.00	4.1
27	.00	.00	.00	.00	.00	5.3	.00	.00	.00	.57	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.31	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.02	.01	.00	1.69	44.49	13.37	.00	.00	1.30	8.45	53.33	5.90
MEAN	.001	.000	.000	.055	1.53	.43	.000	.000	.043	.27	1.72	.20
MAX	.02	.01	.00	1.6	10	5.3	.00	.00	1.3	2.1	40	4.1
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.04	.02	.00	3.4	88	27	.00	.00	2.6	17	106	12

CAL YR 1979 TOTAL 86.09 MEAN .24 MAX 40 MIN .00 AC-FT 171
WTR YR 1980 TOTAL 128.56 MEAN .35 MAX 40 MIN .00 AC-FT 255

09486500 SANTA CRUZ RIVER AT CORTARO, AZ

LOCATION.--Lat 32°21'04", long 111°05'38", in NW¼NW¼ sec.35, T.12 S., R.12 E., Pima County, Hydrologic Unit 15050302, on downstream side of right bridge pier 0.5 mi (0.8 km) southwest of Cortaro, 2.6 mi (4.2 km) downstream from Canada del Oro, and 3.7 mi (6.0 km) downstream from Rillito Creek.

DRAINAGE AREA.--3,503 mi^2 (9,073 km^2), of which 395 mi^2 (1,023 km^2) is in Mexico.

PERIOD OF RECORD.--October 1939 to June 1947 (published as "at Rillito"), July 1950 to current year.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,133.13 ft (650.178 m) National Geodetic Vertical Datum of 1929 (State Highway Department bench mark). Prior to June 30, 1947, at site 5.5 mi (8.8 km) downstream at different datum. July 8, 1950, to Jan. 20, 1966, at present site at datum 4.00 ft (1.219 m) higher. Supplementary water-stage recorder on downstream side of left bridge pier at same datum since Aug. 29, 1969.

REMARKS.--Records poor. Many diversions above station, mostly by pumping from ground water, for irrigation of about 34,000 acres (138 km^2). Waste water from irrigation and from sewage-disposal plant is included in flow past station; included only in water years 1951, 1952, and since 1970 water year. This year most of flow shown below 50 ft^3/s (1.42 m^3/s) is waste water.

AVERAGE DISCHARGE (unadjusted for waste water and sewage effluent).--37 years (water years 1940-46, 1951-80), 44.0 ft^3/s (1.246 m^3/s) 31,880 acre-ft/yr (39.3 hm^3/yr); median of yearly mean discharges, 31 ft^3/s (0.88 m^3/s), 22,500 acre-ft/yr (28 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,000 ft^3/s (651 m^3/s) Oct. 10, 1977, gage height, 15.6 ft (4.75 m); no natural flow for most of each year. (See REMARKS.)

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,650 ft^3/s (75.0 m^3/s) July 19, 2130 hours, gage height, 8.30 ft (2.530 m), no peak above base of 2,700 ft^3/s (76 m^3/s); minimum daily, 5.0 ft^3/s (0.142 m^3/s) May 20 to June 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	50	64	58	58	28	9.7	28	5.0	15	30	20
2	35	52	58	61	56	28	10	31	5.0	15	60	20
3	41	38	67	55	50	28	7.5	28	5.0	15	40	25
4	38	52	58	61	52	28	8.5	26	5.0	15	55	25
5	38	50	64	64	50	28	11	27	5.0	15	30	101
6	45	55	67	55	42	28	12	17	5.0	15	25	334
7	38	50	67	67	40	28	12	15	5.0	15	25	254
8	42	52	67	58	85	32	20	15	5.0	15	24	242
9	40	61	64	69	78	32	20	15	5.0	15	26	37
10	35	50	64	64	48	32	19	16	5.0	15	42	27
11	38	55	61	67	50	35	16	15	15	15	65	20
12	32	55	64	67	50	25	19	19	34	31	30	23
13	28	55	61	70	223	24	18	13	32	217	512	26
14	30	52	64	73	789	26	23	8.5	25	50	247	33
15	40	55	61	70	613	28	22	9.5	33	40	419	41
16	38	55	52	67	491	30	20	8.3	33	42	30	59
17	40	55	61	70	450	26	19	6.0	24	38	30	41
18	40	52	50	70	301	22	21	5.5	21	58	25	42
19	40	58	52	73	178	29	30	5.2	18	179	25	35
20	42	42	55	67	52	27	22	5.0	17	84	25	33
21	42	61	58	96	20	25	22	5.0	24	50	25	34
22	42	61	55	74	27	23	19	5.0	25	40	25	36
23	40	58	55	64	28	19	18	5.0	26	30	119	33
24	35	58	64	55	25	21	23	5.0	24	30	233	39
25	42	61	48	64	28	18	29	5.0	23	64	263	94
26	48	61	48	58	28	21	34	5.0	20	88	149	378
27	48	61	52	55	28	80	27	5.0	22	40	30	35
28	48	64	61	55	28	13	25	5.0	22	70	30	30
29	48	61	67	55	28	17	22	5.0	16	40	25	30
30	45	52	61	52	---	8.6	22	5.0	16	30	25	30
31	48	---	67	52	---	8.7	---	5.0	---	30	20	---
TOTAL	1246	1642	1857	1986	3998	818.3	580.7	368.0	520.0	1416	2709	2157
MEAN	40.2	54.7	59.9	64.1	138	26.4	19.4	11.9	17.3	45.7	87.4	71.9
MAX	48	64	67	96	789	80	34	31	34	217	512	378
MIN	28	38	48	52	20	8.6	7.5	5.0	5.0	15	20	20
AC-FT	2470	3260	3680	3940	7930	1620	1150	730	1030	2810	5370	4280

CAL YR 1979 TOTAL 38432.0 MEAN 105 MAX 4190 MIN 17 AC-FT 76230
WTR YR 1980 TOTAL 19298.0 MEAN 52.7 MAX 789 MIN 5.0 AC-FT 38280

09488500 SANTA ROSA WASH NEAR VAIVA VO, NEAR SELLS, AZ

LOCATION.--Lat 32°40'03", long 111°55'39", in SW¼SW¼ sec.2, T.9 S., R.4 E., Pinal County, Hydrologic Unit 15050306, in Papago Indian Reservation, on right bank about 1 mi (2 km) downstream from Tat Momolikot Dam, 3.3 mi (5.3 km) south of Vaiva Vo, 10 mi (16 km) southwest of Chuichu, 12 mi (19 km) downstream from Gu Komelik and 52 mi (84 km) north of Sells.

DRAINAGE AREA.--1,782 mi^2 (4,615 km^2).

PERIOD OF RECORD.--October 1954 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 1,470 ft (448 m), from topographic map.

REMARKS.--Records poor. Beginning July 1974, flood flows are regulated by Lake St. Clair, formed by Tat Momolikot Dam, about 1 mi (2 km) upstream--total capacity, 384,000 acre-ft (473 hm^3).

AVERAGE DISCHARGE.--20 years, (water years 1955-74), 14.0 ft^3/s (0.396 m^3/s), 10,140 acre-ft/yr (12.5 hm^3/yr); median of yearly mean discharges, 8.1 ft^3/s (0.23 m^3/s), 5,900 acre-ft/yr (7.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,100 ft^3/s (1,500 m^3/s) Sept. 27, 1962, gage height, 16.9 ft (5.15 m), from rating curve extended above 840 ft^3/s (24 m^3/s) on basis of slope-area measurement of peak flow; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 105 ft^3/s (2.97 m^3/s) Aug. 24, gage height, 2.42 ft (0.738 m); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.58	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.10	.00	.00	.00	.58	2.54	.00
MEAN	.000	.000	.000	.000	.000	.003	.000	.000	.000	.019	.082	.000
MAX	.00	.00	.00	.00	.00	.10	.00	.00	.00	.58	2.5	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.2	.00	.00	.00	1.2	5.0	.00

CAL YR 1979 TOTAL 5.00 MEAN .014 MAX 4.3 MIN .00 AC-FT 9.9
WTR YR 1980 TOTAL 3.22 MEAN .009 MAX 2.5 MIN .00 AC-FT 6.4

09489000 SANTA CRUZ RIVER NEAR LAVEEN, AZ
(National stream-quality accounting network station)

LOCATION.--Lat 33°13'56", long 112°10'08", in NE¼NE¼ sec.29, T.2 S., R.2 E., Pinal County, Hydrologic Unit 15050303, in Gila River Indian Reservation, on downstream side of highway bridge, 3.4 mi (5.5 km) upstream from mouth, 4.3 mi (6.9 km) south of Komatke, and 9 mi (14 km) south of Laveen.

DRAINAGE AREA.--8,581 mi^2 (22,225 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1940 to September 1946, December 1947 to current year.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,020.86 ft (311.158 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Many diversions above station, mostly by pumping from ground water, for municipal uses and for irrigation of about 240,000 acres (970 km^2), not including San Carlos Project. Much of the low flow passing this station is drainage and wasteway return from irrigated lands upstream and pumpage from ground water; such flow is excluded when it can be identified.

AVERAGE DISCHARGE.--38 years (water years 1941-46, 1949-80), 19.1 ft^3/s (0.541 m^3/s), 13,840 acre-ft/yr (17.1 hm^3/yr); median of yearly mean discharges, 12 ft^3/s (0.34 m^3/s), 8,700 acre-ft/yr (11 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,200 ft^3/s (261 m^3/s) Sept. 29, 1962, gage height, 17.50 ft (5.334 m); no flow for most of time in recent years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115 ft^3/s (3.257 m^3/s) 0430 hours, Feb. 20, gage height, 9.36 ft (2.853 m), no peak above base of 380 ft^3/s (11 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	4.2	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	4.5	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	3.5	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	27	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	16	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	9.4	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	12	58	.00	.00	.00	.00	.00	2.7	.00
15	.00	.00	.00	12	40	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	8.9	27	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	11	40	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	23	3.9	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	22	33	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.64	68	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.87	32	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	22	2.2	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	14	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	8.3	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	2.1	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	146.21	304.10	43.00	.00	12.20	.00	.00	2.70	.00
MEAN	.000	.000	.000	4.72	10.5	1.39	.000	.39	.000	.000	.087	.000
MAX	.00	.00	.00	23	68	27	.00	4.5	.00	.00	2.7	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	290	603	85	.00	24	.00	.00	5.4	.00

CAL YR 1979 TOTAL 15438.30 MEAN 42.3 MAX 1970 MIN .00 AC-FT 30620
WTR YR 1980 TOTAL 508.21 MEAN 1.39 MAX 68 MIN .00 AC-FT 1010

09489000 SANTA CRUZ RIVER NEAR LAVEEN, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1974 to current year.

REMARKS.--Some low flow is entirely waste water from irrigated lands.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
FEB 20...	1330	18	751	8.9	14.5	3500	9.5	3600	188000	18	0	5.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
FEB 20...	1.2	150	16	3.2	140	74	110	1.4	15	442	449	.60

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)
FEB 20...	.88	.970	.130	1.2	4.0	.71	5.0	4.2	.84	5.9	1.7	26

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
FEB 20...	7.600	23	.350	80	38	1300	200	5	0	110	0	77

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
FEB 20...	0	390	19	110000	770	170	0	5100	30	.2	1.0	120

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
FEB 20...	0	2	1	3	0	650	20	7.3	8.7	5060	246	100

09489030 EAST FORK SEVEN SPRINGS DRAW NEAR SPRINGERVILLE, AZ

LOCATION.--Lat 33°57'54", long 109°22'16", in NE¼NE¼, sec.34, T.7 N., R.28 E., Apache County, Hydrologic Unit 15060101, in Apache-Sitgreaves National Forest, on right bank, 0.4 mi (0.6 km) downstream from Seven Springs, 0.3 mi (0.5 km) upstream from mouth, and 13 mi (21 km) southwest of Springerville.

DRAINAGE AREA.--1.17 mi^2 (3.03 km^2).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and concrete weir. Altitude of gage is 9,160 ft (2,790 m), from topographic map.

COOPERATION.--Gage-height record and rating furnished by U.S. Forest Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29 ft^3/s (0.82 m^3/s) Apr. 28, 1980, gage height, 2.16 ft (0.658 m), from theoretical weir formula; minimum daily, 0.01 ft^3/s (<0.001 m^3/s) for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from theoretical weir formula) and peak discharges above base of 7.0 ft^3/s (0.198 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Apr. 22	1630	16	0.45	1.68	0.512
Apr. 28	1615	*29	0.82	2.16	0.658
July 12	1345	10	0.28	1.42	0.433

Minimum daily, 0.01 ft^3/s (<0.001 m^3/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.02	.01	.02	.03	.05	.06	6.2	.02	.02	.02	.01
2	.01	.02	.02	.02	.03	.05	.06	4.6	.02	.01	.02	.01
3	.01	.02	.02	.02	.03	.05	.07	4.9	.02	.01	.03	.01
4	.01	.02	.03	.04	.03	.05	.21	4.4	.02	.01	.02	.01
5	.01	.02	.02	.03	.02	.05	.90	2.5	.02	.01	.02	.02
6	.01	.02	.02	.02	.03	.05	1.8	2.4	.01	.01	.02	.03
7	.01	.04	.03	.02	.03	.05	1.1	1.8	.02	.07	.03	.01
8	.01	.07	.03	.02	.03	.05	.20	1.6	.02	.01	.04	.02
9	.01	.04	.03	.03	.03	.05	.23	1.2	.02	.02	.03	.34
10	.02	.04	.02	.03	.03	.05	.33	.97	.01	.04	.02	.05
11	.02	.02	.02	.02	.03	.05	.49	.75	.01	.04	.02	.02
12	.02	.02	.02	.03	.03	.05	.53	.67	.01	.84	.02	.01
13	.02	.02	.02	.03	.03	.05	.53	.58	.01	.14	.03	.01
14	.05	.02	.02	.03	.03	.05	.53	.50	.01	.04	.07	.01
15	.06	.03	.02	.03	.03	.05	.53	.47	.01	.02	.02	.02
16	.04	.03	.02	.03	.03	.06	.77	.43	.01	.01	.01	.01
17	.03	.03	.02	.03	.03	.06	1.1	.37	.01	.02	.01	.01
18	.03	.02	.02	.03	.03	.06	1.4	.45	.01	.02	.01	.01
19	.04	.02	.02	.03	.04	.06	2.2	.35	.01	.03	.01	.01
20	.04	.02	.02	.03	.04	.06	3.1	.25	.02	.03	.01	.01
21	.10	.02	.03	.03	.04	.06	5.2	.21	.01	.03	.01	.02
22	.04	.03	.03	.03	.04	.06	9.0	.15	.01	.03	.01	.02
23	.04	.02	.02	.03	.04	.06	8.5	.12	.01	.07	.01	.01
24	.04	.02	.03	.02	.04	.06	8.0	.09	.01	.04	.08	.01
25	.04	.03	.02	.02	.04	.06	3.7	.07	.01	.02	.02	.01
26	.02	.03	.02	.02	.05	.06	5.4	.09	.01	.02	.02	.03
27	.02	.03	.02	.02	.05	.06	9.2	.06	.02	.02	.02	.02
28	.02	.02	.02	.02	.05	.06	15	.05	.02	.02	.01	.02
29	.02	.02	.04	.03	.05	.06	11	.04	.02	.04	.01	.01
30	.02	.02	.02	.03	---	.06	6.6	.04	.02	.04	.01	.01
31	.03	---	.02	.02	---	.06	---	.02	---	.02	.01	---
TOTAL	.85	.78	.70	.81	1.01	1.71	97.74	36.33	.43	1.75	.67	.79
MEAN	.027	.026	.023	.026	.035	.055	3.26	1.17	.014	.056	.022	.026
MAX	.10	.07	.04	.04	.05	.06	15	6.2	.02	.84	.08	.34
MIN	.01	.02	.01	.02	.02	.05	.06	.02	.01	.01	.01	.01
AC-FT	1.7	1.5	1.4	1.6	2.0	3.4	194	72	.9	3.5	1.3	1.6

WTR YR 1980 TOTAL 143.57 MEAN .39 MAX 15 MIN .01 AC-FT 285

09489040 WEST FORK SEVEN SPRINGS DRAW NEAR SPRINGERVILLE, AZ

LOCATION.--Lat 33°58'34", long 109°22'23", in NW¼SE¼, sec.27, T.7 N., R.28 E., Apache County, Hydrologic Unit 15060101, in Apache-Sitgreaves National Forest, on left bank, 1.0 mi (1.6 km) upstream from mouth, and 12 mi (19 km) southwest of Springerville.

DRAINAGE AREA.--0.75 mi^2 (1.94 km^2).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and concrete weir. Altitude of gage is 9,180 ft (2,800 m), from topographic map.

COOPERATION.--Gage-height record and rating furnished by U.S. Forest Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21 ft^3/s (0.59 m^3/s) Apr. 21, 1980, from theoretical weir formula; maximum gage height 1.91 ft (0.582 m) Apr. 22, 1980 (backwater from ice); maximum gage height unaffected by backwater, 1.88 ft (0.573 m) Apr. 21, 1980; no flow for most of year.

EXTREMES FOR CURRENT YEAR.--Maximum (*), (discharge computed from theoretical weir formula) and peak discharges above base of 5.0 ft^3/s (0.142 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Apr. 21	1545	*21	0.59	1.88	0.573	Apr. 28	1515	11	0.31	1.45	0.442
Apr. 22	1645	(a)	(a)	*1.91	0.582						

No flow for most of year.
a Backwater from ice.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	2.2	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	2.0	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.01	2.2	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.01	2.1	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.01	1.6	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.04	1.6	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.02	1.4	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.01	1.4	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.01	1.1	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.01	1.1	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.01	.69	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.01	.50	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.01	.52	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.04	.51	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.16	.47	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.88	.41	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	6.2	.45	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	14	.52	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	20	.41	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	20	.37	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	21	.35	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	15	.30	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	10	.22	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	3.0	.13	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	2.1	.06	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	3.2	.05	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	5.0	.03	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	5.7	.02	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	4.2	.01	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	2.3	.01	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.01	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	132.93	22.74	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	4.43	.73	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	21	2.2	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	264	45	.00	.00	.00	.00

WTR YR 1980 TOTAL 155.67 MEAN .43 MAX 21 MIN .00 AC-FT 309

09489075 EAST FORK BLACK RIVER NEAR ALPINE, AZ

LOCATION.--Lat 33°45'33", long 109°21'26", in SE¼NW¼, sec.12, T.4 N., R.28 E., Greenlee County, Hydrologic Unit 15060101, in Apache-Sitgreaves National Forest, on the left bank, 0.3 mi (0.5 km) downstream from bridge on Forest Road 25, 0.5 mi (0.8 km) upstream from confluence with West Fork of Black River and 14 mi (23 km) southwest of Alpine.

DRAINAGE AREA.--112 mi^2 (290 km^2).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,520 ft (2,290 m), from topographic map.

REMARKS.--Storage for recreational and stock purposes near headwaters. No diversion above station.

COOPERATION.--Gage-height record and rating furnished by U.S. Forest Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,690 ft^3/s (47.9 m^3/s) Apr. 21, 1980, gage height, 4.32 ft (1.317 m), from theoretical rating; minimum daily, 5.7 ft^3/s (0.161 m^3/s) July 5, 1980.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Flood of Oct. 20, 1972, reached a discharge of 3,780 ft^3/s (107 m^3/s), based on slope-area computation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from theoretical rating) and peak discharges above base of 150 ft^3/s (4.25 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 20	0145	251	7.11	1.71	0.521	Apr. 10	2100	936	26.5	3.24	0.988
Feb. 29	2300	197	5.58	1.52	0.463	Apr. 21	2230	*1,690	47.9	4.32	1.317
Mar. 21	2400	242	6.85	1.68	0.512	Apr. 28	2300	1,220	34.6	3.69	1.125

Minimum daily, 5.7 ft^3/s (0.161 m^3/s) July 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	16	14	14	35	189	143	594	24	6.4	7.3	7.7
2	21	15	14	15	37	184	146	566	22	6.2	7.6	7.3
3	21	14	14	15	36	180	144	502	19	6.0	8.7	7.1
4	21	14	14	15	39	150	175	517	18	5.8	8.2	7.2
5	21	13	14	16	40	133	252	485	16	5.7	11	9.2
6	20	13	14	17	40	140	346	437	15	5.9	8.6	19
7	20	15	14	17	40	144	444	441	14	8.2	11	15
8	20	21	14	18	36	141	504	394	13	7.7	10	12
9	20	19	14	19	38	146	575	358	12	7.0	11	15
10	20	15	14	20	37	150	685	310	11	7.6	9.6	25
11	20	14	14	20	35	141	717	280	10	10	8.3	19
12	20	13	14	20	34	132	562	232	9.2	11	7.7	15
13	20	13	14	20	34	149	456	191	8.5	10	9.2	12
14	20	13	14	20	33	185	454	170	7.8	8.9	11	11
15	20	13	14	20	110	223	570	163	7.2	8.8	11	10
16	20	13	14	20	123	222	739	148	7.1	7.3	8.8	9.5
17	21	13	14	20	91	209	852	129	6.8	6.8	7.4	8.8
18	20	13	14	20	108	215	931	124	6.6	7.3	6.9	8.2
19	18	13	14	20	180	217	1020	129	6.5	10	6.7	7.7
20	18	13	14	15	207	194	1070	102	6.6	8.6	6.5	7.5
21	21	13	14	15	143	213	1240	88	6.7	9.6	6.3	7.2
22	19	13	14	15	115	230	1350	77	6.5	10	6.2	7.0
23	16	13	14	15	107	205	1100	70	6.3	10	6.8	7.0
24	15	13	14	15	96	181	775	64	6.1	11	18	7.0
25	15	13	14	17	93	163	594	55	6.2	9.4	27	7.0
26	15	13	14	17	104	148	599	47	6.3	8.6	17	7.2
27	15	13	14	17	130	144	742	39	6.9	8.2	16	7.4
28	15	13	14	17	161	143	877	35	6.8	7.5	13	7.8
29	15	13	14	17	183	133	886	31	6.6	7.6	11	7.8
30	15	13	14	39	---	135	691	28	6.5	7.6	9.5	7.3
31	14	---	14	34	---	148	---	25	---	7.2	8.4	---
TOTAL	576	416	434	579	2465	5287	19639	6831	305.2	251.9	315.7	305.9
MEAN	18.6	13.9	14.0	18.7	85.0	171	655	220	10.2	8.13	10.2	10.2
MAX	21	21	14	39	207	230	1350	594	24	11	27	25
MIN	14	13	14	14	33	132	143	25	6.1	5.7	6.2	7.0
AC-FT	1140	825	861	1150	4890	10490	38950	13550	605	500	626	607

WTR YR 1980 TOTAL 37405.7 MEAN 102 MAX 1350 MIN 5.7 AC-FT 74190

09489076 BURRO MOUNTAIN WEIR NEAR GREER, AZ

LOCATION.--Lat 33°53'53", long 109°28'21", in NW¼SE¼, sec.23, T.6 N., R.27 E., Apache County, Hydrologic Unit 15060101, in Apache-Sitgreaves National Forest, on left bank, on an unnamed stream, 0.6 mi (1.0 km) upstream from mouth and 8 mi (13 km) south of Greer.

DRAINAGE AREA.--1.14 mi^2 (2.95 km^2).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and concrete weir. Altitude of gage is 9,000 ft (2,740 m), from topographic map.

COOPERATION.--Gage-height record and rating furnished by U.S. Forest Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7.1 ft^3/s (0.201 m^3/s) Apr. 21, 1980, gage height, 1.21 ft (0.369 m), from theoretical weir formula; minimum daily, 0.01 ft^3/s (<.001 m^3/s) Dec. 15-17, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from theoretical weir formula) and peak discharges above base of 3.0 ft^3/s (.085 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Apr. 10	2030	4.5	0.127	1.01	0.308	Apr. 28	1800	5.5	0.156	1.09	0.332
Apr. 21	1645	*7.1	0.201	1.21	0.369						

Minimum daily, .01 ft^3/s (<.001 m^3/s) Dec. 15-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.03	.02	.03	.13	.47	.29	4.4	.91	.22	.14	.09
2	.03	.03	.02	.03	.13	.45	.29	4.2	.84	.18	.10	.08
3	.03	.03	.03	.03	.12	.42	.32	4.2	.76	.16	.10	.07
4	.03	.03	.03	.04	.10	.34	.47	4.5	.71	.21	.16	.08
5	.03	.03	.03	.04	.08	.28	.77	4.7	.66	.28	.14	.14
6	.03	.03	.03	.04	.07	.29	1.1	4.8	.61	.38	.22	.20
7	.03	.06	.03	.04	.06	.25	1.3	4.9	.57	.45	.18	.11
8	.03	.09	.03	.04	.06	.26	1.8	4.9	.53	.19	.20	.12
9	.03	.06	.03	.04	.06	.25	2.1	4.9	.50	.19	.17	.12
10	.03	.05	.03	.04	.06	.32	2.8	4.7	.46	.29	.13	.11
11	.03	.05	.03	.04	.06	.28	2.9	4.3	.42	.39	.11	.10
12	.03	.04	.03	.04	.06	.25	2.3	3.8	.39	.50	.11	.08
13	.03	.04	.03	.05	.05	.27	1.7	3.5	.37	.37	.20	.07
14	.04	.04	.02	.05	.09	.41	1.7	3.3	.34	.24	.29	.07
15	.05	.04	.01	.05	.31	.54	2.3	3.1	.33	.17	.24	.06
16	.03	.04	.01	.05	.27	.51	3.2	2.9	.31	.14	.17	.06
17	.02	.04	.01	.05	.16	.49	3.9	2.8	.29	.12	.13	.05
18	.02	.04	.02	.04	.14	.54	4.6	2.7	.28	.22	.12	.05
19	.03	.04	.02	.04	.13	.55	5.1	2.5	.27	.50	.11	.04
20	.03	.04	.02	.04	.13	.48	5.5	2.4	.27	.35	.09	.04
21	.09	.04	.03	.04	.14	.55	6.1	2.4	.26	.40	.08	.04
22	.03	.03	.03	.04	.17	.61	6.3	2.3	.24	.36	.07	.03
23	.03	.03	.02	.04	.17	.51	5.2	2.2	.22	.28	.09	.03
24	.03	.03	.02	.04	.18	.41	4.0	2.0	.20	.21	.34	.03
25	.03	.03	.02	.04	.19	.36	3.3	1.8	.23	.16	.16	.03
26	.03	.04	.03	.04	.20	.32	3.0	1.6	.20	.14	.24	.04
27	.03	.04	.03	.04	.27	.29	3.3	1.5	.21	.12	.24	.04
28	.03	.03	.03	.04	.38	.26	4.3	1.3	.21	.12	.17	.04
29	.03	.03	.03	.05	.45	.24	4.9	1.2	.20	.11	.14	.03
30	.04	.02	.03	.05	---	.26	4.7	1.1	.22	.13	.11	.03
31	.03	---	.03	.11	---	.29	---	.99	---	.18	.10	---
TOTAL	1.01	1.17	.78	1.35	4.42	11.75	89.54	95.89	12.01	7.76	4.85	2.08
MEAN	.033	.039	.025	.044	.15	.38	2.98	3.09	.40	.25	.16	.069
MAX	.09	.09	.03	.11	.45	.61	6.3	4.9	.91	.50	.34	.20
MIN	.02	.02	.01	.03	.05	.24	.29	.99	.20	.11	.07	.03
AC-FT	2.0	2.3	1.5	2.7	8.8	23	178	190	24	15	9.6	4.1

WTR YR 1980 TOTAL 232.61 MEAN .64 MAX 6.3 MIN .01 AC-FT 461

09489078 WEST FORK BLACK RIVER NEAR ALPINE, AZ

LOCATION.--Lat 33°45'36", long 109°22'30", in NW¼NW¼, sec.11, T.4 N., R.28 E., Apache County, Hydrologic Unit 15060101, in Apache-Sitgreaves National Forest, on right bank, 1.0 mi (1.6 km) upstream from mouth and 15 mi (24 km) southwest of Alpine.

DRAINAGE AREA.--54.1 mi^2 (140 km^2).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,550 ft (2,300 m), from topographic map.

COOPERATION.--Gage-height record and rating furnished by U.S. Forest Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 662 ft^3/s (18.7 m^3/s) Apr. 21, 1980, gage height, 3.68 ft (1.122 m), from theoretical rating; minimum daily, 4.5 ft^3/s (0.127 m^3/s) Nov. 3, Dec. 22, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 2,050 ft^3/s (58.1 m^3/s) October 20, 1972, gage height, 5.90 ft (1.798 m), from slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), from theoretical rating) and peak discharges above base of 150 ft^3/s (4.25 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Apr. 10	1845	240	6.80	2.57	0.783	Apr. 28	2200	542	15.3	3.43	1.045
Apr. 21	2200	*662	18.7	3.68	1.122						

Minimum daily, 4.5 ft^3/s (0.127 m^3/s) Nov. 3, Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	4.8	5.8	6.0	12	73	49	311	50	19	11	9.8
2	5.1	4.6	6.0	6.0	13	70	49	304	47	15	12	8.7
3	5.0	4.5	6.0	7.0	12	69	51	279	45	14	13	8.0
4	4.9	5.2	6.9	7.0	13	58	69	307	44	12	10	13
5	4.9	5.0	7.7	7.0	14	51	94	287	44	12	19	15
6	4.7	5.4	7.3	7.0	14	52	120	301	43	12	22	44
7	4.7	6.8	7.0	7.0	13	53	137	310	42	22	30	22
8	4.7	11	5.7	7.0	14	50	147	302	42	14	31	20
9	4.6	8.1	5.6	7.6	11	52	163	279	43	13	28	29
10	4.6	7.4	6.1	7.9	11	52	193	244	45	13	21	40
11	4.6	5.5	6.0	7.3	11	48	215	211	45	19	15	31
12	4.6	6.2	6.0	8.5	11	43	179	167	41	20	13	21
13	4.6	5.9	5.2	8.4	11	50	145	150	39	20	14	16
14	4.6	6.0	6.0	8.8	11	65	139	138	36	14	28	13
15	4.7	6.9	5.9	10	20	78	169	137	33	11	22	12
16	4.7	6.2	6.0	8.4	24	73	226	120	31	9.6	14	11
17	4.7	6.5	5.6	7.6	24	68	282	117	30	8.7	11	9.2
18	4.7	6.5	6.0	6.3	31	70	331	119	29	9.2	9.5	8.0
19	4.7	6.4	6.0	7.0	57	66	399	113	29	20	8.3	7.4
20	4.8	5.1	6.4	6.7	73	63	457	114	28	19	7.5	7.1
21	8.0	5.0	5.0	7.2	55	70	523	118	26	17	7.0	6.6
22	6.7	5.0	4.5	6.9	44	72	550	119	25	22	6.6	6.4
23	5.8	5.0	5.0	7.0	42	61	437	113	24	19	7.5	5.6
24	5.7	5.0	5.0	7.0	40	53	305	102	23	16	29	5.2
25	5.5	6.0	5.0	7.0	39	47	231	88	22	11	24	5.0
26	5.4	6.0	5.2	7.0	43	43	210	76	20	10	28	5.2
27	5.3	6.5	4.8	7.0	52	44	249	68	20	9.4	38	5.6
28	5.3	6.8	5.0	7.0	63	42	361	62	20	9.0	26	5.6
29	5.4	6.6	5.0	7.6	72	40	405	59	19	10	18	5.4
30	5.4	6.0	6.0	12	---	46	339	55	18	11	14	4.7
31	5.2	---	6.0	12	---	48	---	53	---	12	11	---
TOTAL	158.7	181.9	179.7	236.2	850	1770	7224	5223	1003	442.9	548.4	409.5
MEAN	5.12	6.06	5.80	7.62	29.3	57.1	241	168	33.4	14.3	17.7	13.7
MAX	8.0	11	7.7	12	73	78	550	311	50	22	38	44
MIN	4.6	4.5	4.5	6.0	11	40	49	53	18	8.7	6.6	4.7
AC-FT	315	361	356	469	1690	3510	14330	10360	1990	878	1090	812

WTR YR 1980 TOTAL 18227.3 MEAN 49.8 MAX 550 MIN 4.5 AC-FT 36150

09489086 BEAVER CREEK NEAR ALPINE, AZ

LOCATION.--Lat 33°44'17", long 109°20'28", in SW¼, sec.18, T.4½ N., R.29 E. (unsurveyed), Greenlee County, Hydrologic Unit 15060101, in Apache-Sitgreaves National Forest, on right bank, 0.1 mi (0.2 km) upstream from Heifer Branch, 1.5 mi (2.4 km) upstream from confluence with Black River, and 14 mi (12 km) southwest of Alpine.

DRAINAGE AREA.--59.1 mi^2 (153.1 km^2).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,500 ft (2,290 m), from topographic map.

REMARKS.--Minor storage for stock purposes near headwaters.

COOPERATION.--Gage-height record and rating furnished by U.S. Forest Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 478 ft^3/s (13.5 m^3/s) Feb. 19, 1980, gage height, 3.08 ft (0.939 m), from theoretical rating; minimum daily, 0.03 ft^3/s (0.001 m^3/s) Oct. 14-20, Oct. 28 to Nov. 6, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from theoretical rating) and peak discharges above base of 100 ft^3/s (2.83 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 19	2400	*478	13.5	3.08	0.939	Apr. 8	2400	132	3.74	1.98	0.604
Feb. 29	1815	152	4.30	2.08	0.634	Apr. 21	2245	134	3.79	1.99	0.606
Mar. 15	0015	124	3.51	1.94	0.591						

Minimum daily, 0.03 ft^3/s (0.001 m^3/s) Oct. 14-20, Oct. 28 to Nov. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.03	.05	.05	23	111	49	78	10	.53	.25	2.7
2	.07	.03	.05	.05	27	102	56	72	9.2	.49	1.0	2.2
3	.06	.03	.05	.05	24	93	57	70	8.1	.45	.68	1.7
4	.06	.03	.05	.05	24	81	70	70	7.2	.41	.50	1.5
5	.06	.03	.05	.05	23	77	79	74	6.2	.39	.67	2.2
6	.05	.03	.05	.05	21	80	89	80	5.5	.41	.78	49
7	.05	.05	.05	.05	17	80	93	79	4.9	.62	.83	25
8	.04	.40	.04	.06	13	73	92	78	4.4	.40	2.0	25
9	.04	.11	.04	.06	8.9	79	118	76	3.9	.45	3.8	26
10	.04	.07	.04	.07	9.7	87	102	72	3.5	.45	2.2	35
11	.04	.06	.04	.11	8.6	87	103	68	3.0	.39	1.4	29
12	.04	.06	.04	.19	6.9	88	92	61	2.7	1.5	1.3	21
13	.04	.06	.04	.23	5.9	95	77	55	2.4	.89	6.0	16
14	.03	.06	.05	.70	13	102	72	50	2.1	.47	4.8	12
15	.03	.06	.05	1.7	87	108	74	51	1.8	.38	3.4	9.5
16	.03	.06	.05	.65	85	91	79	47	1.6	.32	2.1	8.2
17	.03	.06	.05	.65	74	78	87	44	1.5	.31	1.4	6.2
18	.03	.06	.05	.60	134	74	93	46	1.3	.37	1.1	4.9
19	.03	.06	.05	.64	270	72	99	46	1.2	.50	.81	4.0
20	.03	.06	.05	.65	284	64	105	44	1.2	.39	.64	3.4
21	.07	.06	.05	.57	125	70	119	42	1.2	.30	.52	2.8
22	.05	.06	.05	.57	96	70	120	41	1.0	.32	.44	2.5
23	.04	.06	.05	.67	86	61	107	36	.86	.48	.63	2.4
24	.04	.06	.05	.86	78	54	90	31	.76	.42	14	2.3
25	.04	.05	.05	.95	77	49	78	27	.73	.30	39	1.9
26	.04	.04	.05	1.0	88	47	72	22	.74	.30	17	1.7
27	.04	.04	.05	.85	103	52	69	19	.77	.29	11	1.6
28	.03	.04	.05	.67	120	51	75	16	.82	.26	10	1.4
29	.03	.04	.05	.88	126	48	84	15	.67	.58	6.6	1.4
30	.03	.04	.05	13	---	49	85	13	.59	.40	4.7	1.2
31	.03	---	.05	19	---	51	---	12	---	.31	3.5	---
TOTAL	1.31	1.90	1.49	45.68	2058.0	2324	2585	1535	89.84	14.08	143.05	303.7
MEAN	.042	.063	.048	1.47	71.0	75.0	86.2	49.5	2.99	.45	4.61	10.1
MAX	.07	.40	.05	19	284	111	120	80	10	1.5	39	49
MIN	.03	.03	.04	.05	5.9	47	49	12	.59	.26	.25	1.2
AC-FT	2.6	3.8	3.0	91	4080	4610	5130	3040	178	28	284	602

WTR YR 1980 TOTAL 9103.05 MEAN 24.9 MAX 284 MIN .03 AC-FT 18060

09489089 HEIFER BRANCH NEAR ALPINE, AZ

LOCATION.--Lat 33°44'21", long 109°20'30", in NW¼SW¼, sec.18, T.4 N., R.29 E. (unsurveyed), Greenlee County, Hydrologic Unit 15060101, in Apache-Sitgreaves National Forest, on left bank, about 100 ft (30 m) upstream from mouth, and 14 mi (23 km) southwest of Alpine.

DRAINAGE AREA.--3.80 mi^2 (9.84 km^2).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and concrete weir. Altitude of gage is 7,520 ft (2,290 m) from topographic map.

COOPERATION.--Gage-height record and rating furnished by U.S. Forest Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36 ft^3/s (1.02 m^3/s) Feb. 19, 1980, gage height, 2.37 ft (0.722 m), from theoretical weir formula; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from theoretical weir formula) and peak discharges above base of 10 ft^3/s (0.283 m^3/s); no flow for many days.

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 19	2345	*36	1.02	2.37	0.722	Mar. 14	1900	18	0.51	1.76	0.536
Feb. 29	1830	19	0.54	1.82	0.555	Apr. 6	1900	15	0.42	1.65	0.503

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.00	.00	.00	2.4	16	6.4	2.1	.06	.00	.00	.07
2	.02	.00	.00	.00	2.7	15	6.9	1.9	.05	.00	.01	.07
3	.02	.00	.00	.00	2.5	14	7.5	1.7	.05	.00	.01	.06
4	.02	.01	.00	.00	2.9	11	9.4	1.6	.04	.00	.00	.06
5	.02	.01	.00	.00	2.9	9.9	11	1.5	.04	.00	.00	.10
6	.01	.00	.00	.00	2.8	11	12	1.4	.04	.00	.00	.09
7	.01	.00	.00	.00	2.4	11	13	1.2	.03	.00	.01	.08
8	.01	.05	.00	.00	1.7	9.9	12	1.0	.03	.00	.01	.11
9	.01	.01	.00	.00	1.0	10	12	.90	.03	.00	.02	.36
10	.01	.01	.00	.00	1.3	9.4	12	.79	.03	.00	.02	.83
11	.01	.00	.00	.01	1.0	8.8	11	.74	.02	.00	.02	.47
12	.01	.00	.00	.03	.90	9.0	9.8	.68	.02	.11	.02	.29
13	.00	.00	.00	.03	.80	11	7.7	.59	.02	.02	.24	.20
14	.00	.00	.00	.08	1.7	13	6.8	.52	.02	.01	.05	.15
15	.00	.00	.00	.08	12	14	6.7	.56	.02	.00	.06	.12
16	.00	.00	.00	.06	13	12	6.8	.46	.02	.00	.04	.11
17	.00	.01	.00	.06	11	11	6.7	.40	.01	.00	.03	.10
18	.00	.01	.00	.06	15	11	6.5	.41	.01	.00	.03	.09
19	.01	.01	.00	.05	24	10	6.2	.39	.01	.01	.03	.09
20	.01	.01	.00	.05	26	9.3	5.9	.29	.01	.01	.04	.08
21	.01	.00	.00	.05	16	11	6.3	.23	.01	.00	.04	.08
22	.00	.00	.00	.05	12	10	5.6	.19	.01	.00	.04	.07
23	.00	.00	.00	.05	11	8.4	4.7	.17	.01	.01	.05	.07
24	.00	.00	.00	.05	10	7.2	4.1	.14	.01	.00	.22	.06
25	.00	.00	.00	.05	9.6	6.5	3.5	.13	.00	.00	.45	.06
26	.00	.00	.00	.05	11	6.1	2.9	.12	.00	.00	.27	.06
27	.00	.00	.00	.05	13	6.7	2.5	.10	.00	.00	.18	.05
28	.00	.00	.00	.04	15	6.4	2.4	.09	.00	.00	.13	.05
29	.00	.00	.00	.04	16	5.7	2.5	.08	.00	.01	.10	.05
30	.00	.00	.00	.80	---	6.4	2.5	.07	.00	.00	.08	.04
31	.00	---	.00	2.0	---	6.6	---	.06	---	.00	.08	---
TOTAL	.20	.13	.00	3.74	241.60	307.3	213.3	20.51	.60	.18	2.28	4.12
MEAN	.006	.004	.000	.12	8.33	9.91	7.11	.66	.020	.006	.074	.14
MAX	.02	.05	.00	2.0	26	16	13	2.1	.06	.11	.45	.83
MIN	.00	.00	.00	.00	.80	5.7	2.4	.06	.00	.00	.00	.04
AC-FT	.4	.3	.00	7.4	479	610	423	41	1.2	.4	4.5	8.2

WTR YR 1980 TOTAL 793.96 MEAN 2.17 MAX 26 MIN .00 AC-FT 1570

09489100 BLACK RIVER NEAR MAVERICK, AZ

LOCATION.--Lat 33°42'27", long 109°26'48", in SW¼ sec.30, T.4 N., R.28 E., Apache County, Hydrologic Unit 15060101, in Apache National Forest, on right bank 1.0 mi (1.6 km) downstream from Fish Creek, 1.1 mi (1.8 km) upstream from Conklin Creek, and 6 mi (10 km) southeast of Maverick.

DRAINAGE AREA.--315 mi^2 (816 km^2).

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,850 ft (2,088 m), from topographic map. Prior to Sept. 19, 1973, at datum 0.85 ft 0.259 m) higher.

REMARKS.--Records good. Minor storage for recreational and stock purposes near headwaters. No diversion above station.

AVERAGE DISCHARGE.--18 years, 147 ft^3/s (4.163 m^3/s), 106,500 acre-ft/yr (131 hm^3/yr); median of yearly mean discharges, 120 ft^3/s (3.40 m^3/s), 86,900 acre-ft/yr (110 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,100 ft^3/s (314 m^3/s) Oct. 20, 1972, gage height, 8.14 ft (2.481 m), datum then in use, from rating curve extended above 2,100 ft^3/s (59 m^3/s) on basis of slope-area measurement of peak flow, maximum gage height, 8.74 ft (2.664 m) Dec. 18, 1978; minimum daily discharge, 9.6 ft^3/s (0.27 m^3/s) Dec. 7, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 400 ft^3/s (11 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 19	1830	856	24.2	3.46	1.055
Feb. 29	1215	712	20.2	3.25	0.991
Apr. 21	Unknown	*3,400	96.3	a5.72	1.743

Minimum daily, 19 ft^3/s (0.54 m^3/s) Nov. 21, Dec. 14-15.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	28	21	26	115	579	250	1150	134	47	44	43
2	30	28	20	22	113	568	270	1090	127	43	45	41
3	30	26	23	26	110	496	260	1100	119	40	61	39
4	30	26	28	26	105	404	270	1130	111	37	58	44
5	30	26	26	29	100	395	300	1050	107	36	74	50
6	30	26	26	28	100	408	400	1100	103	37	73	140
7	30	27	26	28	97	404	720	1050	100	50	71	93
8	30	40	26	29	78	383	840	1000	96	40	56	89
9	29	40	26	30	71	390	1000	920	95	41	49	103
10	29	33	25	32	56	360	1160	820	95	48	50	146
11	30	30	26	34	61	350	1300	700	94	53	50	130
12	30	26	26	32	59	360	800	600	88	58	49	97
13	30	26	23	34	49	410	540	540	83	45	58	77
14	30	26	19	37	76	450	700	490	79	40	76	65
15	30	30	19	33	362	480	900	450	74	36	72	57
16	30	28	21	31	374	450	1100	420	70	33	53	53
17	30	27	23	32	327	410	1250	390	67	35	44	47
18	31	28	23	34	486	430	1400	380	65	54	40	43
19	30	28	27	28	766	400	1500	370	64	43	37	40
20	29	26	30	24	814	350	1650	355	62	52	36	38
21	35	19	28	27	558	380	2250	353	62	49	34	36
22	37	22	24	36	426	400	2000	344	59	51	34	35
23	30	25	21	34	388	350	1900	322	57	42	34	34
24	28	27	20	34	338	330	1500	293	54	38	65	34
25	28	27	20	35	334	300	1120	258	53	38	126	33
26	27	30	20	58	387	270	1180	223	52	36	79	32
27	27	27	20	131	477	280	1300	196	51	35	100	32
28	27	25	20	123	574	270	1550	170	51	39	76	33
29	27	23	21	121	618	250	1400	162	50	38	61	33
30	28	23	26	109	---	260	1250	149	48	36	52	31
31	28	---	26	105	---	260	---	142	---	39	46	---
TOTAL	920	823	730	1408	8419	11827	32060	17717	2370	1309	1803	1768
MEAN	29.7	27.4	23.5	45.4	290	382	1069	572	79.0	42.2	58.2	58.9
MAX	37	40	30	131	814	579	2250	1150	134	58	126	146
MIN	27	19	19	22	49	250	250	142	48	37	34	31
AC-FT	1820	1630	1450	2790	16700	23460	63590	35140	4700	2600	3580	3510

CAL YR 1979 TOTAL 93783 MEAN 257 MAX 2680 MIN 19 AC-FT 186000
WTR YR 1980 TOTAL 81154 MEAN 222 MAX 2250 MIN 19 AC-FT 161000

NOTE.--No gage-height record Mar. 11 to May 20.

09489200 PACHETA CREEK AT MAVERICK, AZ

LOCATION.--Lat 33°44'23", long 109°32'24", at corner of secs.28, 29, 32, 33, T.4½ N., R.27 E. (unsurveyed), Apache County, Hydrologic Unit 15060101, in Fort Apache Indian Reservation, on left bank 0.5 mi (0.8 km) southeast of Maverick.

DRAINAGE AREA.--14.8 mi^2 (38.3 km^2).

PERIOD OF RECORD.--October 1957 to September 1980 (discontinued). Prior to October 1970 published as Pachete Creek at Maverick.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,850 ft (2,393 m), by barometer.

REMARKS.--Records good.

AVERAGE DISCHARGE.--23 years, 9.15 ft^3/s (0.259 m^3/s), 6,630 acre-ft/yr (8.17 hm^3/yr); median of yearly mean discharges, 8.0 ft^3/s (0.23 m^3/s), 5,800 acre-ft/yr (7.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 323 ft^3/s (9.15 m^3/s) May 13, 1973, gage height, 4.36 ft (1.329 m); minimum daily, 0.2 ft^3/s (0.006 m^3/s) many days in 1959-60.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 35 ft^3/s (1.0 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 18	0300	60	1.70	3.41	1.039	Apr. 21	1930	*159	4.50	3.99	1.216
Apr. 10	1745	99	2.80	3.69	1.125	Apr. 28	2300	108	3.06	3.74	1.140

Minimum daily, 1.2 ft^3/s (0.034 m^3/s), Dec. 6-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.4	1.4	1.3	2.2	11	12	79	19	2.3	1.6	1.4
2	1.4	1.4	1.4	1.3	2.2	11	12	75	18	2.2	1.5	1.4
3	1.4	1.4	1.4	1.3	2.2	11	13	75	17	2.0	3.7	1.5
4	1.4	1.4	1.4	1.3	2.2	9.8	17	78	16	1.8	1.7	2.4
5	1.3	1.4	1.4	1.3	2.2	8.9	24	76	15	1.8	1.5	3.6
6	1.3	1.4	1.2	1.4	2.3	8.9	31	72	14	1.7	1.5	4.6
7	1.3	1.4	1.2	1.4	2.5	8.9	38	78	13	2.3	2.9	2.4
8	1.3	1.4	1.2	1.4	2.4	8.6	48	75	13	1.9	4.2	2.5
9	1.3	1.4	1.2	1.4	2.2	8.9	60	82	12	1.9	5.5	2.5
10	1.3	1.4	1.2	1.4	2.2	9.4	70	82	12	1.8	4.7	2.5
11	1.3	1.4	1.2	1.5	2.1	10	66	79	11	2.0	3.7	2.2
12	1.3	1.4	1.2	1.5	2.0	10	49	63	10	3.5	3.2	2.0
13	1.3	1.4	1.2	1.5	1.9	11	48	61	9.3	3.9	4.5	1.9
14	1.3	1.4	1.2	1.5	2.3	14	98	60	8.5	3.3	6.0	1.8
15	1.3	1.4	1.2	1.5	5.6	16	93	59	7.4	2.7	5.4	1.8
16	1.3	1.4	1.2	1.7	5.4	16	104	56	6.7	2.2	4.1	1.7
17	1.3	1.4	1.2	1.7	4.8	17	115	54	6.2	1.8	3.1	1.8
18	1.3	1.4	1.2	1.7	7.2	23	128	54	5.7	1.6	2.4	1.7
19	1.3	1.4	1.2	1.7	14	21	132	50	5.3	1.6	2.0	1.7
20	1.3	1.4	1.2	1.7	16	20	130	53	4.9	3.1	1.7	1.7
21	1.3	1.4	1.2	1.9	10	22	141	54	4.5	3.5	1.5	1.7
22	1.3	1.4	1.2	1.9	8.9	22	134	53	4.1	5.5	1.4	1.7
23	1.3	1.4	1.2	1.9	7.1	20	111	50	3.8	6.8	1.5	1.7
24	1.3	1.4	1.2	1.9	6.6	18	89	45	3.5	9.5	2.5	1.7
25	1.3	1.4	1.2	1.9	6.1	15	76	39	3.2	6.7	1.9	1.7
26	1.3	1.4	1.2	2.0	6.6	14	68	34	2.9	5.2	1.9	1.7
27	1.3	1.4	1.2	2.0	7.7	13	73	30	2.7	3.5	2.0	1.7
28	1.3	1.4	1.2	2.0	9.1	12	89	27	2.6	2.7	2.3	1.7
29	1.3	1.4	1.2	2.0	11	12	103	24	2.5	2.2	2.1	1.6
30	1.3	1.4	1.2	2.0	---	12	91	23	2.4	1.9	1.8	1.6
31	1.3	---	1.2	2.0	---	12	---	21	---	1.9	1.5	---
TOTAL	40.7	42.0	38.2	51.0	157.0	426.4	2263	1761	256.2	94.8	85.3	59.9
MEAN	1.31	1.40	1.23	1.65	5.41	13.8	75.4	56.8	8.54	3.06	2.75	2.00
MAX	1.4	1.4	1.4	2.0	16	23	141	82	19	9.5	6.0	4.6
MIN	1.3	1.4	1.2	1.3	1.9	8.6	12	21	2.4	1.6	1.4	1.4
AC-FT	81	83	76	101	311	846	4490	3490	508	188	169	119

CAL YR 1979 TOTAL 7266.2 MEAN 19.9 MAX 153 MIN 1.2 AC-FT 14410
WTR YR 1980 TOTAL 5275.5 MEAN 14.4 MAX 141 MIN 1.2 AC-FT 10460

NOTE.--No gage-height record Oct. 6 to Dec. 5, Dec. 8 to Feb. 7.

09489500 BLACK RIVER BELOW PUMPING PLANT, NEAR POINT OF PINES, AZ

LOCATION.--Lat 33°28'36", long 109°45'48", in W½ sec.32, T.2 N., R.25 E. (unsurveyed), Graham County, Hydrologic Unit 15060101, in San Carlos Indian Reservation on left bank 0.9 mi (1.4 km) downstream from Phelps Dodge Corp. pumping plant, 1.3 mi (2.1 km) downstream from Freezeout Creek, 8 mi (13 km) northwest of Point of Pines, and 63 mi (101 km) upstream from confluence with White River.

DRAINAGE AREA.--560 mi^2 (1,450 km^2).

PERIOD OF RECORD.--June 1953 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,725 ft (1,745.0 m), from topographic map.

REMARKS.--Records good. Water is diverted at pumping plant 0.9 mi (1.4 km) upstream and pumped into headwaters of Willow Creek (tributary of Eagle Creek) for mining, metallurgical treatment of ores, and domestic supply in vicinity of Morenci. (See sta 09445000.)

AVERAGE DISCHARGE (adjusted for diversion to Willow Creek).--27 years, 211 ft^3/s (5.976 m^3/s), 152,900 acre-ft/yr (189 hm^3/yr); median of yearly mean discharges, 150 ft^3/s (4.25 m^3/s), 109,000 acre-ft/yr (134 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft^3/s (507 m^3/s) Oct. 19, 1972, gage height, 18.0 ft (5.49 m), from flood-marks, from rating curve extended above 5,000 ft^3/s (140 m^3/s); minimum daily, 2.6 ft^3/s (0.074 m^3/s) July 5, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 5,000 ft^3/s or 140 m^3/s) and peak discharges above base of 500 ft^3/s (14 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0630	1,090	30.9	5.05	1.539
Feb. 15	1800	*6,640	188	10.65	3.246
Feb. 20	1430	3,590	102	7.80	2.377
Apr. 22	0730	3,310	93.7	7.50	2.286

Minimum daily, 13 ft^3/s (0.368 m^3/s) Dec. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	30	20	28	354	1140	542	1660	226	69	45	38
2	23	32	13	27	293	1070	610	1580	217	56	42	30
3	27	38	15	27	244	1060	555	1490	208	49	44	26
4	26	32	27	23	205	936	690	1480	202	41	67	27
5	26	30	29	18	194	876	886	1530	188	33	71	36
6	24	29	29	23	191	859	1110	1400	182	28	85	126
7	23	29	29	24	179	876	1360	1500	177	52	89	188
8	23	38	29	27	165	826	1490	1420	174	61	134	141
9	22	49	29	28	131	793	1610	1430	168	56	129	141
10	20	49	29	39	109	788	1750	1320	168	52	147	200
11	20	41	28	58	94	921	1970	1210	168	47	109	226
12	20	36	28	63	89	793	1720	1050	165	79	87	182
13	20	30	29	60	83	826	1420	914	157	46	85	136
14	22	32	27	58	922	881	1290	815	149	87	119	107
15	22	28	23	73	4120	974	1400	771	136	67	134	87
16	22	33	16	83	2450	974	1670	744	126	51	105	87
17	21	33	15	75	1610	886	1940	670	117	41	75	77
18	21	32	16	75	1420	859	2100	660	105	32	56	58
19	21	32	20	87	2350	881	2280	660	100	32	47	45
20	22	38	22	83	3270	766	2380	630	96	42	36	38
21	26	32	30	92	2070	793	2480	610	98	94	28	33
22	29	26	44	105	1760	881	2860	610	96	89	23	30
23	30	19	32	87	1600	766	2670	575	79	109	28	29
24	28	22	18	67	1040	716	2170	537	87	109	35	29
25	24	29	16	65	980	650	1750	479	94	105	96	28
26	20	29	23	69	942	590	1500	412	89	77	134	27
27	21	29	39	69	980	575	1560	357	89	65	94	28
28	21	29	32	67	1060	590	1720	314	85	56	114	28
29	21	27	16	73	1140	537	2000	290	87	47	85	30
30	22	27	17	737	---	519	1860	254	75	44	69	29
31	26	---	21	470	---	570	---	241	---	51	49	---
TOTAL	713	960	759	2880	30045	25172	49343	27613	4108	1917	2461	2287
MEAN	23.0	32.0	24.5	92.9	1036	812	1645	891	137	61.8	79.4	76.2
MAX	30	49	44	737	4120	1140	2860	1660	226	109	147	226
MIN	20	19	13	18	83	519	542	241	75	28	23	26
AC-FT	1410	1900	1510	5710	59590	49930	97870	54770	8150	3800	4880	4540
MEAN†	45.6	47.6	42.7	106	1050	835	1670	913	154	82.9	100	97.3
AC-FT†	2800	2830	2630	6500	60200	51340	99250	56120	9190	5100	6150	5790

CAL YR 1979 TOTAL 164852 MEAN 452 MAX 3900 MIN 13 AC-FT 327000 MEAN † 472 AC-FT † 341,800
WTR YR 1980 TOTAL 148258 MEAN 405 MAX 4120 MIN 13 AC-FT 294100 MEAN † 424 AC-FT † 307,900

† Adjusted for Willow Creek diversion from Black River, near Morenci, Ariz.

09489700 BIG BONITO CREEK NEAR FORT APACHE, AZ

LOCATION.--Lat 33°40'02", long 109°50'46", in NE¼ sec.28, T.4 N., R.24 E. (unsurveyed), Apache County, Hydrologic Unit 15060101, in Fort Apache Indian Reservation, near right bank on downstream side of pier of highway bridge, 1.9 mi (3.1 km) upstream from Tonto Creek, 3.7 mi (6.0 km) southeast of Chino Springs, and 12 mi (19 km) southeast of Fort Apache.

DRAINAGE AREA.--119 mi^2 (308 km^2).

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1969 published as "Big Bonita Creek near Fort Apache."

REVISED RECORDS.--WRD Ariz. 1969: 1967.

GAGE.--Water-stage recorder. Altitude of gage is 5,910 ft (1,801 m), by barometer.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor.

AVERAGE DISCHARGE.--23 years, 68.5 ft^3/s (1.940 m^3/s), 49,630 acre-ft/yr (61.2 hm^3/yr); median of yearly mean discharges, 60 ft^3/s (1.70 m^3/s), 43,500 acre-ft/yr (54 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,510 ft^3/s (128 m^3/s) Dec. 18, 1978, gage height, 9.04 ft (2.755 m); from rating curve extended above 640 ft^3/s (18 m^3/s) on basis of slope-area measurement at gage height 7.77 ft (2.368 m); minimum daily, 4.2 ft^3/s (0.12 m^3/s) Nov. 30, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 640 ft^3/s or 18 m^3/s as explained above) and peak discharges above base of 150 ft^3/s (4.2 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0945	593	16.8	4.66	1.420
Feb. 15	Unknown	*3,440	97.4	a8.19	2.496
Feb. 20	Unknown	840	23.8	a5.20	1.585
Apr. 11	Unknown	Unknown	----	Unknown	-----
Apr. 22	Unknown	897	25.4	5.31	1.618
Apr. 29	Unknown	Unknown	----	Unknown	-----
May 21	0845	386	10.9	3.95	1.204

Minimum daily, 9.7 ft^3/s (0.27 m^3/s) Oct. 7-12.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	11	10	15	133	240	132	395	110	37	20	16
2	11	11	10	15	111	230	132	390	100	30	22	15
3	10	11	10	15	96	240	129	385	100	27	21	16
4	10	12	15	15	90	220	159	390	90	25	23	21
5	10	12	15	10	87	190	188	410	90	23	29	22
6	10	12	15	15	60	180	239	410	80	22	28	45
7	9.7	13	15	15	55	180	299	445	80	47	25	53
8	9.7	17	15	15	50	175	332	440	80	29	26	33
9	9.7	20	15	15	45	170	350	460	75	26	35	38
10	9.7	16	15	22	40	160	410	440	70	28	41	36
11	9.7	14	15	42	35	200	460	420	70	29	38	30
12	9.7	13	15	48	30	180	415	380	70	29	25	25
13	10	12	15	48	30	170	345	340	65	34	25	22
14	10	12	15	47	530	190	300	320	60	27	34	21
15	10	13	15	112	1800	220	330	310	60	25	31	20
16	10	14	10	70	800	210	385	310	50	22	26	19
17	10	13	10	49	440	200	450	290	50	20	22	17
18	10	14	10	50	400	180	490	290	45	19	20	16
19	10	14	10	63	600	190	530	290	40	18	19	16
20	10	14	10	51	450	170	560	292	40	25	18	15
21	12	15	15	57	542	180	580	349	40	29	17	15
22	14	10	20	53	440	200	670	280	35	34	16	14
23	12	11	15	42	370	190	625	270	35	30	17	15
24	11	10	15	39	300	180	510	245	33	32	28	15
25	9.8	15	10	39	230	170	410	220	41	32	29	15
26	10	15	15	36	210	150	345	190	39	27	21	14
27	10	15	15	35	200	140	350	170	37	24	34	16
28	10	15	15	32	230	130	380	150	35	24	22	19
29	11	10	10	36	250	140	450	140	34	24	20	17
30	11	10	10	363	---	140	430	120	36	24	18	15
31	12	---	10	173	---	130	---	115	---	21	17	---
TOTAL	322.0	394	410	1637	9154	5645	11385	9656	1790	843	767	631
MEAN	10.4	13.1	13.2	52.8	316	182	380	311	59.7	27.2	24.7	21.0
MAX	14	20	20	363	1800	240	670	460	110	47	41	45
MIN	9.7	10	10	10	30	130	129	115	33	18	16	14
AC-FT	639	781	813	3250	18160	11200	22580	19150	3550	1670	1520	1250

CAL YR 1979	TOTAL	51838.5	MEAN 142	MAX 820	MIN 9.7	AC-FT	102800	
WTR YR 1980	TOTAL	42634.0	MEAN 116	MAX 1800	MIN 9.7	AC-FT	84560	

NOTE.--No gage-height record Nov. 20 to Jan. 10, Feb. 5-20, Feb. 22 to Apr. 1, Apr. 8 to June 24.

09490500 BLACK RIVER NEAR FORT APACHE, AZ

LOCATION.--Lat 33°42'46", long 110°12'40", in NW¼ sec.12, T.4 N., R.20 E. (unsurveyed), Gila County, Hydrologic Unit 15060101, on downstream side of first pier from right on highway bridge, 5 mi (8 km) upstream from confluence with White River and 14 mi (23 km) west of Fort Apache.

DRAINAGE AREA.--1,232 mi^2 (3,191 km^2).

PERIOD OF RECORD.--October 1912 to December 1915, September 1916, October 1917 to January 1918, April 1918, October 1957 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1313: 1914-15, Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,345 ft (1,324.4 m), from river-profile map. November 1912 to July 1918, nonrecording gages or water-stage recorders at several sites within 1 mi (2 km) of present site at various datums.

REMARKS.--Record good except those for period of no gage-height record, which are fair. One transbasin diversion for industrial and municipal use (see record of Willow Creek diversion from Black River, near Morenci). Negligible storage in several small recreational lakes.

AVERAGE DISCHARGE.--26 years (water years 1913-15, 1958-80), 404 ft^3/s (11.44 m^3/s), 292,700 acre-ft/yr (361 hm^3/yr); median of yearly mean discharges, 310 ft^3/s (8.78 m^3/s), 225,000 acre-ft/yr (280 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft^3/s (1,140 m^3/s) Dec. 18, 1978, gage height, 24.05 ft (7.330 m), from rating curve extended above 8,900 ft^3/s (250 m^3/s) on basis of slope-area measurements at gage heights 14.70 ft (4.481 m) and 22.33 ft (6.806 m); minimum daily, 11 ft^3/s (0.31 m^3/s) July 6, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 8,900 ft^3/s or 250 m^3/s as explained above) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 12	0415	1,090	30.9	4.70	1.433
Jan. 19	1030	2,870	81.3	7.14	2.176
Jan. 30	1345	7,860	223	11.50	3.505
Feb. 15	Unknown	*40,000	1,130	a24.0	7.315
Feb. 20	Unknown	23,800	674	19.55	5.959
Mar. 11	2330	4,130	117	8.41	2.563
Apr. 11	1615	3,160	89.5	7.45	2.271
Apr. 22	1600	4,670	132	8.89	2.710
Apr. 29	1715	3,030	85.8	7.32	2.231

Minimum daily, 34 ft^3/s (0.96 m^3/s) Oct. 1-4, 10-16, 19.
a From outside high-water mark.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	35	43	42	1440	1580	876	2250	453	120	85	78
2	34	36	40	48	995	1480	840	2000	430	108	84	71
3	34	41	36	51	725	1410	876	1860	410	93	85	65
4	34	41	39	47	573	1510	876	1800	388	83	110	62
5	36	42	44	44	481	1430	1060	1860	372	77	120	70
6	37	43	46	47	423	1250	1330	1810	360	73	133	114
7	36	43	46	48	381	1320	1680	1820	349	73	134	117
8	36	45	46	50	355	1300	1980	1840	341	77	180	188
9	35	47	45	49	305	1150	2160	1810	329	92	184	147
10	34	55	45	57	233	1090	2420	1740	321	92	208	151
11	34	57	45	244	190	2100	2780	1610	314	90	164	174
12	34	55	46	885	157	2630	2640	1450	305	85	142	199
13	34	49	46	391	157	1590	2190	1250	287	93	128	168
14	34	46	45	220	7230	1440	1900	1140	270	126	180	130
15	34	45	45	340	22000	1470	1940	1080	252	110	162	108
16	34	44	44	460	7800	1490	2190	1050	234	93	158	92
17	35	45	40	280	3500	1380	2600	990	219	82	137	82
18	35	45	39	420	3000	1270	2960	966	204	71	109	82
19	34	46	39	2150	4500	1280	3220	961	189	70	92	71
20	35	46	40	1500	12000	1230	3400	951	175	87	82	62
21	37	45	46	1100	7000	1130	3530	937	164	143	76	58
22	38	46	50	985	5090	1220	4080	941	158	143	71	54
23	40	44	57	648	3120	1220	3800	941	150	159	90	52
24	44	39	60	410	2120	1090	3120	876	134	161	423	50
25	42	39	51	290	1650	985	2440	788	122	157	203	48
26	42	43	46	237	1440	899	1990	700	119	124	120	48
27	39	46	48	203	1380	849	1840	629	117	109	155	48
28	36	46	52	180	1440	854	2050	573	113	100	127	47
29	36	46	53	211	1530	872	2530	544	110	91	123	50
30	35	45	49	5170	---	805	2580	513	115	88	111	51
31	35	---	44	2590	---	827	---	477	---	92	92	---
TOTAL	1117	1345	1415	19397	91215	40151	67878	38157	7504	3162	4268	2737
MEAN	36.0	44.8	45.6	626	3145	1295	2263	1231	250	102	138	91.2
MAX	44	57	60	5170	22000	2630	4080	2250	453	161	423	199
MIN	34	35	36	42	157	805	840	477	110	70	71	47
AC-FT	2220	2670	2810	38470	180900	79640	134600	75680	14880	6270	8470	5430

CAL YR 1979 TOTAL 260700 MEAN 714 MAX 6680 MIN 34 AC-FT 517100
WTR YR 1980 TOTAL 278346 MEAN 761 MAX 22000 MIN 34 AC-FT 552100

NOTE.--No gage-height record Feb. 15-21.

09491000 NORTH FORK WHITE RIVER NEAR McNARY, AZ

LOCATION.--Lat 34°02'47", long 109°44'02", in E½ sec.31, T.8 N., R.25 E. (unsurveyed), Apache County, Hydrologic Unit 15060102, in Fort Apache Indian Reservation, on left bank 1.9 mi (3.1 km) downstream from Paradise Creek and 7 mi (11 km) southeast of McNary.

DRAINAGE AREA.--66 mi^2 (171 km^2), approximately.

PERIOD OF RECORD.--June 1945 to June 1947, May 1948 to June 1949, May 1950 to September 1954 (monthly discharge only, July to September 1954), June 1957 to current year. Maximum discharge only for water years 1955-56, published in WSP 1513. Prior to Oct. 1, 1963, published as White River near McNary.

REVISED RECORDS.--WSP 1243: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,723 ft (2,354.0 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for periods of no gage-height record and those for periods of ice effect, which are poor. No storage above station. Water diverted about 5 mi (8 km) upstream from station for use at McNary.

AVERAGE DISCHARGE.--28 years (water years 1946, 1951-53, 1958-80), 45.6 ft^3/s (1.291 m^3/s), 33,040 acre-ft/yr (40.7 hm^3/yr); median of yearly mean discharges, 42 ft^3/s (1.19 m^3/s), 30,400 acre-ft/yr (37 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft^3/s (36.5 m^3/s) Sept. 19, 1946, gage height, 5.36 ft (1.634 m), from rating curve extended above 350 ft^3/s (9.9 m^3/s); minimum recorded, 4 ft^3/s (0.11 m^3/s) Nov. 19, 1948, and Nov. 29, 1950, caused by ice jam upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 180 ft^3/s (5.1 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Apr. 10	1745	248	7.02	2.73	0.832
Apr. 22	unknown	unknown	unknown	unknown	unknown
May 10	1800	260	7.36	2.96	0.902
May 22	unknown	unknown	unknown	unknown	unknown
May 26	2000	239	6.77	2.79	0.850
June 9	2115	*273	7.73	2.89	0.881

Minimum daily, 10 ft^3/s (0.28 m^3/s) Oct. 27-29, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	13	17	12	12	49	37	160	189	46	35	29
2	13	14	17	12	12	47	37	120	181	36	36	28
3	13	14	17	12	12	48	43	105	181	32	38	27
4	13	13	17	12	12	44	43	110	187	28	32	26
5	13	12	17	12	12	40	54	115	196	36	45	34
6	13	11	16	11	12	39	73	130	205	42	42	65
7	13	12	16	11	12	38	93	160	203	59	37	39
8	13	13	16	11	12	37	113	200	207	41	34	36
9	13	14	16	11	12	36	148	230	218	41	45	37
10	13	13	15	11	12	36	170	223	239	40	70	44
11	13	13	13	11	12	36	140	194	230	53	65	36
12	13	13	13	11	12	34	98	167	207	48	55	33
13	13	14	13	11	12	34	85	153	192	48	60	33
14	13	14	12	11	12	40	80	160	176	40	65	34
15	13	15	12	11	12	47	82	165	164	39	75	36
16	12	16	12	12	12	46	88	170	145	35	75	33
17	12	16	12	12	13	47	100	175	136	32	70	31
18	12	16	12	12	18	51	130	185	130	32	60	29
19	12	16	12	12	28	53	160	200	124	33	55	28
20	12	16	12	12	41	49	190	220	114	38	50	27
21	17	17	12	12	35	49	220	250	102	33	45	27
22	14	17	12	12	40	53	220	270	90	32	40	27
23	12	17	12	12	40	48	200	250	82	35	40	26
24	12	17	12	12	39	47	160	230	75	33	55	25
25	11	17	12	12	37	40	120	210	69	30	50	23
26	11	17	12	12	38	38	100	194	62	28	45	25
27	10	17	12	12	41	37	105	191	56	28	40	29
28	10	17	12	12	46	35	140	185	51	28	35	24
29	10	17	12	12	49	35	190	182	48	28	35	23
30	11	17	12	12	---	37	180	183	46	32	30	23
31	10	---	12	12	---	38	---	187	---	35	30	---
TOTAL	383	448	419	362	657	1308	3599	5674	4305	1141	1489	937
MEAN	12.4	14.9	13.5	11.7	22.7	42.2	120	183	144	36.8	48.0	31.2
MAX	17	17	17	12	49	53	220	270	239	59	75	65
MIN	10	11	12	11	12	34	37	105	46	28	30	23
AC-FT	760	889	831	718	1300	2590	7140	11250	8540	2260	2950	1860

CAL YR 1979 TOTAL 34583 MEAN 94.7 MAX 490 MIN 10 AC-FT 68600
WTR YR 1980 TOTAL 20722 MEAN 56.6 MAX 270 MIN 10 AC-FT 41100

NOTE.--No gage-height record Jan. 13 to Feb. 21, Apr. 10 to May 10, May 15-26.

09492400 EAST FORK WHITE RIVER NEAR FORT APACHE, AZ

LOCATION.--Lat 33°49'20", long 109°48'50", in SE¼ sec.16, T.5 N., R.24 E. (unsurveyed), Apache County, Hydrologic Unit 15060102, in Fort Apache Indian Reservation, on left bank 600 ft (180 m) downstream from highway bridge, 0.1 mi (0.2 km) upstream from Rock Creek and 10 mi (16 km) east of Fort Apache.

DRAINAGE AREA.--38.8 mi^2 (100.5 km^2).

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,050 ft (1,844 m), by barometer. Prior to Dec. 29, 1960, at site 600 ft (180 m) upstream at datum 12.78 ft (3.895 m) higher. Dec. 29, 1960, to Sept. 28, 1962, at site 600 ft (180 m) upstream at datum 12.92 ft (3.938 m) higher.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--23 years, 35.2 ft^3/s (0.997 m^3/s), 25,470 acre-ft/yr (31.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, (revised) 758 ft^3/s (21.5 m^3/s) Aug. 3, 1967, gage height, 3.63 ft (1.106 m) from high-water mark in gage well, about 5.0 ft (1.52 m) outside, from rating curve extended above 290 ft^3/s (8.2 m^3/s); minimum daily discharge, 4.0 ft^3/s (0.11 m^3/s) Nov. 29, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 290 ft^3/s or 8.2 m^3/s) and peak discharges above base of 100 ft^3/s (2.83 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	0130	290	8.21	2.65	0.808
Feb. 20	0015	165	4.67	2.18	0.664
Apr. 11	0115	172	4.87	2.21	0.674
Apr. 22	0115	314	8.89	2.71	0.826
Apr. 29	0845	224	6.34	2.42	0.738
May 10	2030	276	7.82	2.60	0.792
May 22	2030	*372	10.54	2.87	0.875
May 31	2000	230	6.51	2.44	0.744
June 10	1915	290	8.21	2.64	0.805

Minimum daily, 8.9 ft^3/s (0.25 m^3/s) Nov. 5.

REVISIONS.--Revised annual maximum (*) and peak discharges above 150 ft^3/s (4.2 m^3/s) for water years 1966-73, inclusive, 1975, and 1978 and, revised daily discharges, in cubic feet per second, for high-water periods in water years 1968 and 1973 are given below. These figures supersede those published in WSP 2126 and in the reports for 1966-73, inclusive, 1975, and 1978 for annual maximum and peak discharges and 1968 and 1973 for daily discharges for high-water periods.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY 1968
MEAN VALUES

1 116	7 141	13 123	19 143	25 139
2 135	8 135	14 125	20 165	26 139
3 135	9 135	15 127	21 174	27 145
4 127	10 127	16 133	22 200	28 156
5 135	11 118	17 131	23 184	29 167
6 137	12 118	18 137	24 158	30 160
				31 158

		TOTAL	MEAN	MAX	MIN	AC-FT
May	1968	4,423	143	200	116	8,770
Cal Yr	1968	16,029.1	43.9	200	9.2	31,490
Wtr Yr	1968	16,089.7	44.0	200	7.9	31,910

DISCHARGE, IN CUBIC FEET PER SECOND, MAY 1973
MEAN VALUES

1 166	7 182	13 384	19 307	25 266
2 138	8 187	14 454	20 333	26 273
3 146	9 236	15 422	21 333	27 300
4 180	10 322	16 376	22 307	28 286
5 254	11 384	17 296	23 273	29 276
6 236	12 376	18 290	24 251	30 276
				31 293

		TOTAL	MEAN	MAX	MIN	AC-FT
May	1973	8,803	284	454	138	17,460
Cal Yr	1973	23,075.1	63.2	454	6.8	45,770
Wtr Yr	1973	26,299.9	72.1	454	9.5	52,160

Water Year	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
1966	Nov. 25, 1965	1630	*270	7.65	2.62	0.799
	Dec. 30, 1965	0800	208	5.89	2.41	0.735
	Apr. 4, 1966	0600	179	5.07	2.30	0.701
	May 18, 1966	Unknown	158	4.47	2.21	0.674
	Aug. 17, 1966	1200	189	5.35	2.34	0.713
1967	Aug. 2, 1967	1530	156	4.42	2.20	0.671
	Aug. 3, 1967	1330	*758	21.5	3.63	1.106
	Aug. 5, 1967	2030	227	6.43	2.48	0.756
	Aug. 10, 1967	1900	216	6.12	2.44	0.744
	Sept. 6, 1967	1830	158	4.47	2.21	0.674
1968	May 22, 1968	2100	200	5.66	2.38	0.725
	Aug. 5, 1968	1830	*352	9.97	2.85	0.869
1969	Apr. 22, 1969	1930	160	4.53	2.22	0.677
	May 21, 1969	2130	*194	5.49	2.36	0.719
	Aug. 29, 1969	2100	189	5.35	2.34	0.713
1970	May 17, 1970	2130	156	4.42	2.20	0.671
	Sept. 6, 1970	0800	*396	11.2	2.96	0.902
1971	Aug. 20, 1971	1400	202	5.72	2.39	0.728
	Sept. 1, 1971	1400	*205	5.81	2.40	0.732
1972	Oct. 1, 1971	0645	*266	7.53	2.61	0.796
	Oct. 24, 1971	2100	233	6.60	2.50	0.762
	Dec. 26, 1971	1630	230	6.51	2.49	0.759
1973	Oct. 7, 1972	1145	202	5.72	2.39	0.728
	Oct. 20, 1972	0015	*732	20.7	3.59	1.094
	Apr. 14, 1973	1945	213	6.03	2.43	0.741
	Apr. 29, 1973	0015	344	9.74	2.83	0.863
	May 5, 1973	1815	337	9.54	2.81	0.856
	May 14, 1973	0115	522	14.8	3.23	0.985
1975	May 16, 1975	2100	*270	7.65	2.62	0.799
	May 27, 1975	2145	167	4.73	2.25	0.686
	June 4, 1975	2000	154	4.36	2.19	0.668
1978	Mar. 1, 1978	1400	*318	9.01	2.76	0.841
	Apr. 1, 1978	0800	221	6.26	2.46	0.750
	Apr. 27, 1978	0500	208	5.89	2.41	0.735
	May 15, 1978	0015	242	6.85	2.53	0.771

09492400 EAST FORK WHITE RIVER NEAR FORT APACHE, AZ--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.4	20	12	30	71	37	167	205	60	26	20
2	11	9.4	22	12	28	67	38	127	194	54	27	19
3	11	9.7	21	13	26	64	36	118	192	48	27	18
4	11	10	21	13	27	58	42	122	202	44	26	18
5	11	8.9	17	12	29	50	50	145	216	40	30	19
6	11	10	12	11	27	50	62	165	219	38	36	39
7	11	12	11	9.6	29	50	79	205	216	48	41	28
8	11	16	11	9.7	26	47	92	227	221	37	43	28
9	11	12	11	9.4	23	45	106	257	239	36	46	30
10	11	12	11	11	21	45	133	244	263	36	47	30
11	11	10	11	12	22	50	156	242	257	43	40	26
12	11	11	11	12	20	50	120	205	221	47	40	24
13	11	11	10	14	20	48	101	184	202	46	41	22
14	11	11	11	14	42	52	101	184	187	39	50	21
15	11	12	13	20	283	59	120	197	172	37	52	22
16	10	11	13	15	177	58	158	184	158	34	48	20
17	10	11	13	14	131	54	187	210	147	31	42	19
18	10	12	13	15	116	55	216	230	141	30	38	18
19	10	12	12	14	114	58	239	236	133	28	33	17
20	9.9	11	10	14	149	54	251	270	125	31	31	17
21	12	12	11	13	90	52	273	318	111	32	28	17
22	11	12	11	12	75	57	286	340	102	30	25	16
23	10	13	10	12	61	54	233	314	96	29	26	16
24	10	13	12	14	55	46	174	283	92	30	37	16
25	9.8	13	11	16	50	42	127	236	84	29	31	16
26	9.6	13	11	15	52	41	107	202	79	28	26	18
27	9.5	12	11	15	58	40	109	192	76	29	26	20
28	9.5	12	11	14	67	40	154	194	70	28	23	16
29	9.5	14	13	14	72	37	218	200	65	27	22	16
30	9.8	14	13	47	---	37	205	200	61	26	21	15
31	9.2	---	13	36	---	36	---	208	---	27	20	---
TOTAL	324.4	349.4	401	464.7	1920	1567	4212	6602	4744	1122	1049	621
MEAN	10.5	11.6	12.9	15.0	66.2	50.5	140	213	158	36.2	33.8	20.7
MAX	12	16	22	47	283	71	286	340	263	60	52	39
MIN	9.2	8.9	10	9.4	20	36	37	118	61	26	20	15
AC-FT	643	693	795	922	3810	3110	8350	13100	9410	2230	2080	1230

CAL YR 1979 TOTAL 24255.5 MEAN 66.5 MAX 312 MIN 5.8 AC-FT 48110
WTR YR 1980 TOTAL 23376.5 MEAN 63.9 MAX 340 MIN 8.9 AC-FT 46370

09494000 WHITE RIVER NEAR FORT APACHE, AZ

LOCATION.--Lat 33°44'11", long 110°09'58", in SE¼ sec.32, T.4½ N., R.21 E. (unsurveyed), Gila County, Hydrologic Unit 15060102, in Fort Apache Indian Reservation, on right bank 2,200 ft (670 m) downstream from highway bridge, 4.5 mi (7.2 km) upstream from confluence with Black River, and 11 mi (18 km) west of Fort Apache.

DRAINAGE AREA.--632 mi^2 (1,637 km^2).

PERIOD OF RECORD.--October 1917 to September 1918 (published as "at Wanslee's Ranch"), October 1957 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WRD Ariz. 1971: 1967(M).

GAGE.--Water-stage recorder. Datum of gage is 4,365.99 ft (1,330.754 m) National Geodetic Vertical Datum of 1929. Oct. 12, 1917, to Aug. 31, 1918, nonrecording gage at site 2,100 ft (640 m) upstream at different datum.

REMARKS.--Records fair. Small diversions above station for irrigation of about 1,460 acres (5.91 km^2). Negligible storage above station in several small recreational lakes.

AVERAGE DISCHARGE.--24 years, 195 ft^3/s (5.522 m^3/s), 141,300 acre-ft/yr (174 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft^3/s (413 m^3/s) Dec. 18, 1978, gage height, 15.71 ft (4.788 m), from rating curve extended above 4,100 ft^3/s (120 m^3/s) on basis of slope-area measurement of peak flow; no flow July 18-21, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 4,100 ft^3/s or 120 m^3/s on basis of slope-area measurement at gage height 15.71 ft or 4.788 m) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	1045	2,430	68.8	7.03	2.143	Apr. 22	0500	2,540	71.9	7.16	2.182
Feb. 15	1900	*8,160	231	12.07	3.679	Apr. 30	0600	1,770	50.1	6.17	1.881
Feb. 20	0345	4,620	131	9.30	2.835	Aug. 3	2200	1,070	30.3	5.02	1.530
Apr. 11	0530	1,510	42.8	5.77	1.759	Aug. 25	0100	1,710	48.4	6.08	1.853

Minimum daily, 27 ft^3/s (0.76 m^3/s) Oct. 8, 9, 11, 14-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	34	40	54	376	613	302	1380	746	210	143	68
2	30	37	37	53	289	579	358	1230	694	170	143	66
3	30	37	36	50	245	605	323	1150	685	157	230	60
4	30	38	47	48	227	579	426	1200	685	148	269	58
5	31	40	48	48	221	504	480	1200	694	140	140	60
6	30	42	45	51	216	480	609	1200	699	140	145	202
7	28	47	45	52	218	473	770	1200	694	138	140	143
8	27	57	44	54	196	430	875	1300	690	136	140	124
9	27	70	44	53	150	395	996	1300	704	124	140	119
10	28	59	45	60	136	384	1160	1250	751	122	145	138
11	27	54	44	77	127	541	1350	1230	756	165	124	226
12	32	48	45	80	134	579	1180	1200	699	175	126	123
13	30	45	44	73	131	469	1030	1180	648	218	174	102
14	27	42	41	72	780	465	981	1160	609	148	177	92
15	27	44	37	99	4370	537	1080	1140	575	138	187	87
16	27	47	37	105	1640	541	1280	1120	520	131	165	86
17	27	47	40	84	1090	496	1450	1100	496	127	133	80
18	36	50	42	84	942	504	1580	1100	450	124	116	72
19	32	51	44	120	1410	558	1650	1100	422	122	101	63
20	31	51	47	95	2730	504	1840	1100	399	122	95	60
21	32	45	50	92	1480	533	2040	1150	362	118	91	58
22	38	40	56	94	1280	562	2250	1210	319	120	92	56
23	40	38	51	80	895	520	2050	1210	289	145	130	54
24	37	42	47	68	690	461	1610	996	263	148	195	52
25	34	48	46	68	575	442	1290	1020	236	145	323	50
26	34	50	53	72	533	388	1130	885	218	145	132	48
27	33	53	60	72	537	388	1120	829	190	145	103	73
28	33	48	56	73	575	403	1250	790	177	145	90	83
29	33	44	51	72	618	351	1570	775	170	143	81	68
30	34	42	48	972	---	323	1630	756	183	143	75	58
31	36	---	50	558	---	358	---	751	---	143	81	---
TOTAL	972	1390	1424	3633	22811	14965	35660	34212	15023	4495	4426	2629
MEAN	31.4	46.3	45.9	117	787	483	1189	1104	501	145	143	87.6
MAX	40	70	60	972	4370	613	2250	1380	756	218	323	226
MIN	27	34	37	48	127	323	302	751	170	118	75	48
AC-FT	1930	2760	2820	7210	45250	29680	70730	67860	29800	8920	8780	5210

CAL YR 1979 TOTAL 145939 MEAN 400 MAX 2300 MIN 27 AC-FT 289500
WTR YR 1980 TOTAL 141640 MEAN 387 MAX 4370 MIN 27 AC-FT 280900

09495000 FORESTDALE CREEK DIVERSION FROM SHOW LOW CREEK, NEAR SHOW LOW, AZ

LOCATION.--Lat 34°10'40", long 110°00'56", in SE¼NW¼ sec.16, T.9 N., R.22 E., Navajo County, Hydrologic Unit 15020005, in Sitgreaves National Forest, on right bank 170 ft (50 m) downstream from terminal structure of Show Low Creek diversion works, 4,350 ft (1,330 m) west of pumping plant on Show Low Lake, and 5 mi (8 km) south of Show Low.

PERIOD OF RECORD.--May 1953 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 6,621.57 ft (2,018.255 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Records excellent. Entire flow consists of water pumped from Show Low Lake, in Little Colorado River basin, into headwaters of Forestdale Creek in Gila River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft^3/s (0.79 m^3/s) June 2, 3, 5, 1973, Mar. 17-25, 27-30, Apr. 2-15, Apr. 18 to May 5, 1975; no flow for most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	.00	.00	.00	.00	.00	.00	.00	.00	25	14	19
2	18	.00	.00	.00	.00	.00	.00	.00	.00	25	14	19
3	17	.00	.00	.00	.00	.00	.00	.00	19	25	23	19
4	16	.00	.00	.00	.00	.00	.00	.00	27	25	23	19
5	14	.00	.00	.00	.00	.00	.00	.00	27	25	23	19
6	8.8	.00	.00	.00	.00	.00	.00	.00	27	25	23	18
7	5.9	.00	.00	.00	.00	.00	.00	.00	26	25	23	18
8	2.6	.00	.00	.00	.00	.00	.00	.00	26	25	22	18
9	.00	.00	.00	.00	.00	.00	.00	.00	26	25	22	18
10	.00	.00	.00	.00	.00	.00	.00	.00	26	23	22	16
11	.00	.00	.00	.00	.00	.00	.00	.00	26	24	22	14
12	.00	.00	.00	.00	.00	.00	.00	.00	26	2.9	22	12
13	.00	.00	.00	.00	.00	.00	.00	.00	26	8.0	22	8.2
14	.00	.00	.00	.00	.00	.00	.00	.00	26	25	21	6.3
15	.00	.00	.00	.00	.00	.00	.00	.00	26	25	21	6.1
16	.00	.00	.00	.00	.00	.00	.00	.00	26	25	21	6.3
17	.00	.00	.00	.00	.00	.00	.00	.00	26	25	20	6.3
18	.00	.00	.00	.00	.00	.00	.00	.00	26	25	20	6.2
19	.00	.00	.00	.00	.00	.00	.00	.00	26	24	20	6.3
20	.00	.00	.00	.00	.00	.00	.00	.00	26	24	20	6.3
21	.00	.00	.00	.00	.00	.00	.00	.00	26	23	20	6.2
22	.00	.00	.00	.00	.00	.00	.00	.00	26	24	20	.80
23	.00	.00	.00	.00	.00	.00	.00	.00	26	24	20	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	26	24	20	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	26	24	19	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	25	24	19	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	25	24	19	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	25	24	19	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	25	24	19	.00
30	.00	.00	.00	.00	---	.00	.00	.00	25	24	19	.00
31	.00	---	.00	.00	---	.00	---	.00	---	23	19	---
TOTAL	100.30	.00	.00	.00	.00	.00	.00	.00	719.00	717.9	631	268.00
MEAN	3.24	.000	.000	.000	.000	.000	.000	.000	24.0	23.2	20.4	8.93
MAX	18	.00	.00	.00	.00	.00	.00	.00	27	25	23	19
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9	14	.00
AC-FT	199	.00	.00	.00	.00	.00	.00	.00	1430	1420	1250	532

CAL YR 1979 TOTAL 2646.30 MEAN 7.25 MAX 27 MIN .00 AC-FT 5250
WTR YR 1980 TOTAL 2436.20 MEAN 6.66 MAX 27 MIN .00 AC-FT 4830

09496500 CARRIZO CREEK NEAR SHOW LOW, AZ

LOCATION.--Lat 33°59'09", long 110°16'52", in sec.24, T.7 N., R.19 E. (unsurveyed), Gila County, Hydrologic Unit 15060104, in Fort Apache Indian Reservation, on right bank 500 ft (152 m) upstream from bridge on U.S. Highway 60, 1 mi (2 km) downstream from Corduroy Creek, 23 mi (37 km) southwest of Show Low, and 24 mi (39 km) upstream from mouth. Prior to June 1976 at site on bridge pier 400 ft (122 m) downstream.

DRAINAGE AREA.--439 mi^2 (1,137 km^2).

PERIOD OF RECORD.--June 1951 to June 1961, June 1967 to June 1976, October 1975 to June 1976 (monthly discharges only), April 1977 to current year.

REVISED RECORDS.--WRD Ariz. 1968: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,749.52 ft (1,447.654 m) National Geodetic Vertical Datum of 1929. Prior to June 1976 at site on bridge pier 400 ft (122 m) downstream at same datum.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions for irrigation above station of less than 300 acres (1.21 km^2). Records include transbasin diversion from Show Low Creek. (See sta 09495000.)

AVERAGE DISCHARGE.--20 years (water years 1952-60, 1968-75, 1978-80), 56.6 ft^3/s (1.603 m^3/s), 41,010 acre-ft/yr (50.6 hm^3/yr); median of yearly mean discharges, 34 ft^3/s (0.96 m^3/s), 24,600 acre-ft/yr (30 hm^3/yr), unadjusted for transbasin diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,500 ft^3/s (581 m^3/s) Jan. 18, 1952, gage height, 12.08 ft (3.682 m), at site then in use, from rating curve extended above 2,000 ft^3/s (57 m^3/s) on basis of slope-area measurement of peak flow, maximum gage height 15.1 ft (4.60 m) Dec. 18, 1978, from high-water mark; minimum daily discharge, 0.2 ft^3/s (0.006 m^3/s) July 12, 1951, Sept. 21, 1959, at site then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1951, about 23,000 ft^3/s (650 m^3/s) Dec. 30, 1965, gage height, 13.0 ft (3.96 m), from floodmark at site then in use, from rating curve extended above 2,000 ft^3/s (57 m^3/s) on basis of slope-area measurement at gage height 12.08 ft (3.682 m) at site then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0945	2,880	81.6	6.11	1.862
Feb. 15	Unknown	a*Unknown	----	Unknown	-----
Feb. 20	Unknown	Unknown	----	Unknown	-----

Minimum daily, 7.3 ft^3/s (0.207 m^3/s) Sept. 29.
a Maximum discharge occurred on this date but discharge and gage height are unknown.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	10	10	11	469	174	119	27	14	38	30	24
2	21	10	10	10	286	147	117	26	14	32	81	24
3	21	10	10	10	200	164	116	26	14	30	51	24
4	21	10	10	11	159	224	126	28	21	30	31	24
5	22	10	10	12	125	232	120	26	33	28	28	25
6	19	10	10	10	102	211	101	25	35	29	30	28
7	15	13	10	15	94	204	90	24	44	33	28	25
8	12	21	9.8	20	92	168	78	23	44	31	30	25
9	11	17	9.3	18	84	138	68	22	44	29	32	25
10	9.6	14	9.7	28	57	118	65	21	42	30	30	26
11	8.3	12	9.7	40	44	262	66	21	38	30	28	25
12	7.8	12	9.0	44	47	480	62	22	34	30	28	22
13	7.9	11	9.0	35	52	294	60	21	34	26	33	18
14	7.9	11	10	27	2600	195	56	20	33	25	34	14
15	7.9	11	9.7	52	6200	156	52	22	32	29	34	12
16	7.9	10	9.7	50	1900	136	46	23	33	28	32	12
17	7.9	10	16	33	1000	108	40	20	32	28	29	12
18	8.3	10	9.7	33	600	100	37	19	31	29	28	11
19	8.6	9.7	9.3	98	1600	113	36	19	32	40	26	11
20	8.3	9.7	9.0	96	4000	115	35	18	32	40	25	11
21	20	10	11	82	3000	118	34	18	32	31	25	11
22	15	9.3	13	69	2100	125	33	17	31	29	55	10
23	11	9.3	13	50	1040	133	32	16	32	29	41	10
24	10	9.0	11	41	645	128	31	15	32	29	48	9.3
25	9.7	9.0	10	43	431	123	30	15	32	28	33	7.6
26	9.6	9.0	12	50	336	113	29	15	33	28	28	7.6
27	9.3	9.0	15	40	273	125	28	15	32	28	27	8.3
28	9.3	9.5	13	40	237	139	27	15	33	28	27	7.6
29	9.5	9.5	12	61	218	165	26	15	33	28	26	7.3
30	11	9.5	11	1860	---	134	29	15	35	31	26	7.6
31	10	---	12	824	---	114	---	14	---	32	24	---
TOTAL	377.8	324.5	332.9	3813	27991	5156	1789	623	961	936	1028	484.3
MEAN	12.2	10.8	10.7	123	965	166	59.6	20.1	32.0	30.2	33.2	16.1
MAX	22	21	16	1860	6200	480	126	28	44	40	81	28
MIN	7.8	9.0	9.0	10	44	100	26	14	14	25	24	7.3
AC-FT	749	644	660	7560	55520	10230	3550	1240	1910	1860	2040	961

CAL YR 1979 TOTAL 46809.2 MEAN 128 MAX 2330 MIN 7.8 AC-FT 92850
WTR YR 1980 TOTAL 43816.5 MEAN 120 MAX 6200 MIN 7.3 AC-FT 86910

NOTE.--No gage-height record Feb. 14-22.

09497500 SALT RIVER NEAR CHRYSOTILE, AZ

LOCATION.--Lat 33°47'53", long 110°29'57", in sec.25, T.5 N., R.17 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in San Carlos Indian Reservation, on left bank 1,200 ft (366 m) upstream from bridge on U.S. Highway 60, 5.7 mi (9.2 km) northeast of Chrysotile, 8 mi (13 km) upstream from Cibecue Creek, and 33 mi (53 km) downstream from confluence of Black and White Rivers.

DRAINAGE AREA.--2,849 mi^2 (7,379 km^2).

PERIOD OF RECORD.--September 1924 to current year (monthly discharge only July to December 1954).

REVISED RECORDS.--WSP 859: 1926-27, 1929-30, 1934, 1936. WSP 899: 1927, 1932, 1937, 1938(M). WSP 1313: 1925-26(M), 1929-30(M), 1935-36(M), 1944(M). WSP 1343: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,354.57 ft (1,022.473 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several diversions for irrigation above station of about 3,100 acres (12.5 km^2), one diversion into the basin (see record of Forestdale Creek diversion from Show Low Creek, near Show Low), and one diversion out of the basin (see record of Willow Creek diversion from Black River, near Morenci).

AVERAGE DISCHARGE.--56 years, 633 ft^3/s (17.93 m^3/s), 458,600 acre-ft/yr (565 hm^3/yr); median of yearly mean discharges, 500 ft^3/s (14.2 m^3/s), 362,000 acre-ft/yr (446 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,400 ft^3/s (1,990 m^3/s) Dec. 18, 1978, gage height, 17.35 ft (5.288 m), from rating curve extended above 52,000 ft^3/s (1,500 m^3/s); minimum, 49 ft^3/s (1.39 m^3/s) July 6, 7, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood peak of 74,000 ft^3/s (2,100 m^3/s) occurred prior to 1924 and is believed to be the peak of the flood of Jan. 19, 1916, gage height, 18 ft (5.5 m), from floodmarks, from rating curve extended above 52,000 ft^3/s (1,500 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 3,500 ft^3/s (99 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 19	unknown	unknown	unknown	unknown	unknown
Jan. 30	unknown	17,000	481	a9.62	2.932
Feb. 15	2000	*58,300	1,650	16.06	4.895
Feb. 20	0815	26,000	736	11.43	3.484
Mar. 12	0515	5,970	169	6.26	1.908
Apr. 11	2230	4,780	135	5.75	1.753
Apr. 22	2015	7,480	212	6.86	2.091
Apr. 29	2400	4,860	138	5.79	1.765
May 9	2245	3,520	100	5.02	1.530

Minimum daily, 113 ft^3/s (3.20 m^3/s) Oct. 17.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	133	155	170	3300	2540	1430	3960	1260	608	290	237
2	142	136	149	180	2500	2420	1390	3460	1220	499	290	216
3	139	136	142	195	1800	2290	1430	3240	1160	474	300	204
4	133	142	139	120	1300	2480	1400	3160	1120	428	300	193
5	133	146	149	175	1000	2440	1650	3250	1130	399	310	188
6	142	149	162	170	852	2100	1990	3210	1150	380	320	271
7	142	169	162	180	788	2090	2480	3210	1130	373	330	383
8	124	187	159	190	707	2130	2940	3360	1120	369	330	363
9	122	257	159	200	649	1830	3250	3380	1110	365	340	377
10	119	216	159	190	543	1680	3680	3270	1130	365	340	351
11	122	204	159	500	423	2730	4240	3090	1160	371	343	455
12	122	199	155	1800	375	4730	4200	2830	1120	418	342	432
13	124	183	155	880	350	2810	3610	2480	1030	495	335	392
14	122	172	155	530	8190	2330	3120	2300	959	418	340	335
15	116	166	152	840	41200	2250	3130	2200	889	325	477	291
16	116	166	149	1050	21600	2340	3570	2150	821	321	412	268
17	113	166	146	700	8500	2190	4200	2100	759	284	366	247
18	116	166	146	1700	6300	1990	4670	2100	714	260	320	230
19	122	169	146	4000	8020	1990	5140	2100	674	245	276	224
20	122	172	149	3000	22000	2040	5550	2100	628	300	249	204
21	180	169	160	2200	13500	1800	5850	2170	592	272	234	190
22	146	162	170	2000	11200	1920	6700	2270	590	258	222	183
23	146	155	190	1300	6700	2020	6550	2310	555	288	361	179
24	146	152	200	900	4150	1800	5260	2190	551	371	646	173
25	152	152	200	700	3150	1650	4100	1960	527	350	964	170
26	146	155	185	500	2630	1500	3580	1760	510	350	417	166
27	146	162	185	350	2420	1420	3060	1590	499	310	329	218
28	130	169	200	300	2390	1440	3320	1470	494	300	318	204
29	130	166	200	2000	2500	1500	4060	1390	491	290	284	198
30	136	159	195	11000	---	1410	4470	1350	473	290	279	186
31	136	---	180	5000	---	1350	---	1290	---	290	257	---
TOTAL	4118	5035	5112	43020	179237	65210	109790	76720	25566	11046	11121	7748
MEAN	133	168	165	1388	6181	2104	3660	2475	852	356	359	258
MAX	180	257	200	11000	41200	4730	6700	3960	1260	608	964	455
MIN	113	133	139	120	350	1350	1380	1290	473	245	222	166
AC-FT	8170	9990	10140	85330	355500	129300	217800	152200	50710	21910	22060	15370

CAL YR 1979	TOTAL	516467	MEAN	1415	MAX	17400	MIN	113	AC-FT	1024000
WTR YR 1980	TOTAL	543723	MEAN	1466	MAX	41200	MIN	113	AC-FT	1078000

NOTE.--No gage-height record Dec. 21 to Feb. 5.

09497800 CIBECUE CREEK NEAR CHRYSOTILE, AZ

LOCATION.--Lat 33°50'35", long 110°33'25", in E½ sec.8, T.5 N., R.17 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in Fort Apache Indian Reservation, on right bank 0.5 mi (0.8 km) upstream from mouth and 7 mi (11 km) north of Chrysotile.

DRAINAGE AREA.--295 mi^2 (764 km^2).

PERIOD OF RECORD.--May 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,200 ft (975 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Small diversions for irrigation in the vicinity of the village of Cibecue.

AVERAGE DISCHARGE.--21 years, 45.9 ft^3/s (1.300 m^3/s), 33,250 acre-ft/yr (41.0 hm^3/yr); median of yearly mean discharges, 32 ft^3/s (0.91 m^3/s), 23,200 acre-ft/yr (29 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,200 ft^3/s (629 m^3/s) Sept. 2, 1977, gage height, 17.3 ft (5.27 m), on basis of slope-area measurement of peak flow; minimum daily, 4.1 ft^3/s (0.12 m^3/s) Aug. 17-19, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 2,200 ft^3/s or 62.3 m^3/s on basis of slope-area measurements at gage heights 10.5 ft or 3.20 m and 17.3 ft or 5.27 m) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 21	0600	1,140	32.3	4.60	1.402
Jan. 29	Unknown	1,990	56.4	a5.50	1.676
Feb. 15	Unknown	*10,600	300	a11.67	3.557
Feb. 18	2345	1,780	50.4	5.18	1.579
Feb. 20	Unknown	Unknown	-----	Unknown	-----
Aug. 3	0445	2,190	62.0	5.59	1.704
Aug. 8	1930	1,240	35.1	4.64	1.414
Aug. 13	2000	1,280	36.2	4.68	1.426
Sept. 4	1915	1,210	34.3	4.61	1.405

Minimum daily, 17 ft^3/s (0.481 m^3/s) June 23-26, 28-29.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	23	20	20	255	189	100	61	32	80	72	27
2	21	23	20	20	201	173	107	59	31	26	43	27
3	21	24	20	20	169	195	103	59	30	23	266	27
4	20	23	20	20	146	184	99	62	29	21	38	145
5	20	23	20	20	126	163	104	58	29	20	34	47
6	20	23	20	20	117	160	109	57	29	20	32	51
7	20	26	20	20	112	163	116	53	29	20	32	58
8	20	45	20	20	107	148	115	51	28	21	163	30
9	20	32	20	20	100	138	113	49	28	20	69	28
10	20	26	20	33	91	126	112	48	27	20	39	65
11	20	24	20	38	76	209	113	47	25	20	34	48
12	20	24	20	44	66	209	109	48	24	19	34	30
13	20	23	20	28	66	197	105	45	24	48	186	27
14	20	23	21	30	2000	170	102	44	24	25	78	26
15	20	23	21	84	3500	158	97	48	24	22	36	25
16	20	23	21	78	760	148	93	53	24	20	32	24
17	20	23	20	76	460	135	90	45	23	20	30	20
18	20	23	20	84	360	131	87	43	23	19	29	19
19	20	23	20	97	700	133	84	44	22	18	27	22
20	20	22	20	93	2000	126	81	39	21	18	27	22
21	167	22	21	82	1300	122	78	38	21	20	26	22
22	31	22	23	68	1050	126	76	37	19	26	26	21
23	26	22	23	62	660	128	75	36	17	21	47	22
24	24	21	21	59	370	122	74	34	17	21	100	22
25	23	21	20	57	265	122	72	35	17	20	128	21
26	23	21	21	54	240	119	69	33	17	20	35	21
27	23	21	22	54	220	119	65	33	18	21	31	22
28	22	20	21	54	219	111	62	33	17	21	30	22
29	22	20	20	254	206	108	61	33	17	21	29	21
30	23	20	20	861	---	102	64	32	19	20	28	20
31	23	---	20	368	---	100	---	31	---	20	27	---
TOTAL	809	709	635	2838	15942	4534	2735	1388	705	731	1808	982
MEAN	26.1	23.6	20.5	91.5	550	146	91.2	44.8	23.5	23.6	58.3	32.7
MAX	167	45	23	861	3500	209	116	62	32	80	266	145
MIN	20	20	20	20	66	100	61	31	17	18	26	19
AC-FT	1600	1410	1260	5630	31620	8990	5420	2750	1400	1450	3590	1950

CAL YR 1979 TOTAL 35904 MEAN 98.4 MAX 2210 MIN 17 AC-FT 71220
WTR YR 1980 TOTAL 33816 MEAN 92.4 MAX 3500 MIN 17 AC-FT 67070

NOTE.--No gage-height record Nov. 18 to Dec. 3, Jan. 29-30, Feb. 14-27.

09497850 CANYON CREEK NEAR GLOBE, AZ

LOCATION.--Lat 33°49'47", long 110°39'50", in sec.17, T.6 N., R.16 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, on left bank 1.9 mi (3.1 km) upstream from mouth, 10 mi (16 km) northwest of Seneca, and 31 mi (50 km) north of Globe.

DRAINAGE AREA.--316 mi^2 (818 km^2).

PERIOD OF RECORD.--October 1975 to current year (monthly discharge only, October 1976 to September 1977).

GAGE.--Water-stage recorder. Altitude of gage is 3,080 ft (940 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft^3/s (598 m^3/s) Mar. 1, 1978, gage height, 18.8 ft (5.73 m), from rating curve based on slope-area measurement at gage height 18.8 ft (5.73 m) and step-backwater computation; minimum not determined, probably occurred in June 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve as explained above) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0700	4,000	113	9.34	2.847
Feb. 15	Unknown	*Unknown	---	Unknown	-----
Feb. 20	Unknown	Unknown	---	Unknown	-----

Minimum daily, 11 ft^3/s (0.312 m^3/s) Aug. 20, 21, and Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	44	39	45	448	390	230	122	42	55	48	12
2	22	44	39	45	279	370	230	120	42	51	56	12
3	25	44	40	45	196	350	230	110	42	37	124	11
4	25	44	41	44	159	330	230	106	41	34	51	16
5	25	44	42	44	136	320	230	94	41	32	42	20
6	25	44	42	44	120	310	240	90	40	31	41	32
7	25	50	42	46	108	300	250	87	39	31	41	36
8	27	80	42	46	99	290	260	79	39	31	39	23
9	29	60	42	47	84	280	300	75	38	30	39	22
10	30	50	42	66	71	280	320	72	38	33	42	19
11	30	45	42	92	63	430	300	69	37	31	45	23
12	30	44	42	228	57	460	244	69	37	31	82	23
13	30	42	42	206	56	460	201	68	37	32	74	18
14	32	42	42	137	1000	440	191	65	36	36	60	17
15	34	42	41	238	8000	410	231	65	36	33	41	17
16	36	43	41	244	1500	370	267	68	35	29	23	16
17	36	43	41	143	900	340	261	67	35	28	16	16
18	36	42	42	120	760	320	241	59	35	28	14	14
19	36	41	42	215	2000	300	236	57	35	28	13	14
20	36	41	44	236	4500	290	215	56	35	28	11	14
21	290	41	46	208	2500	280	198	55	35	29	11	14
22	70	41	50	189	2000	280	186	52	34	31	12	14
23	50	40	51	139	1300	280	159	51	32	39	13	14
24	45	40	48	114	800	280	141	50	32	37	29	15
25	44	41	45	102	550	280	124	50	33	48	59	15
26	43	41	46	97	500	270	116	50	33	38	24	16
27	42	41	48	94	450	260	114	48	32	45	16	17
28	42	41	50	92	400	260	106	47	32	36	14	18
29	43	41	46	150	390	250	106	46	32	37	13	18
30	44	40	45	2180	---	240	112	45	33	37	14	18
31	44	---	44	728	---	230	---	44	---	42	12	---
TOTAL	1347	1336	1349	6424	29426	9950	6269	2131	1088	1088	1119	534
MEAN	43.5	44.5	43.5	207	1015	321	209	68.7	36.3	35.1	36.1	17.8
MAX	290	80	51	2180	8000	460	320	122	42	55	124	36
MIN	21	40	39	44	56	230	106	44	32	28	11	11
AC-FT	2670	2650	2680	12740	58370	19740	12430	4230	2160	2160	2220	1060

CAL YR 1979 TOTAL 55538 MEAN 152 MAX 5030 MIN 16 AC-FT 110200
WTR YR 1980 TOTAL 62061 MEAN 170 MAX 8000 MIN 11 AC-FT 123100

NOTE.--No gage-height record Oct. 1 to Nov. 15, Feb. 14 to Apr. 11.

09497980 CHERRY CREEK NEAR GLOBE, AZ

LOCATION.--Lat 33°49'40", long 110°51'20", in SW¼ sec.30, T.6 N., R.15 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in Tonto National Forest, on right bank 0.2 mi (0.3 km) upstream from Devils Chasm, 13 mi (21 km) upstream from mouth, and 30 mi (48 km) north of Globe. Prior to Jan. 17, 1979, on left bank at site 125 ft (38 m) downstream.

DRAINAGE AREA.--200 mi^2 (518 km^2).

PERIOD OF RECORD.--May 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,200 ft (980 m), from topographic map. Prior to Jan. 17, 1979, at site 125 ft (38 m) downstream at datum 2.95 ft (0.899 m) lower.

REMARKS.--Records good except those for period of no gage-height record, which are poor.

AVERAGE DISCHARGE.--15 years, 42.3 ft^3/s (1.198 m^3/s), 30,650 acre-ft/yr (37.8 hm^3/yr); median of yearly mean discharges, 27 ft^3/s (0.76 m^3/s), 19,600 acre-ft/yr (24 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft^3/s (445 m^3/s) Jan. 17, 1979, gage height, unknown, from slope-area measurement of peak flow; minimum daily, 2.4 ft^3/s (0.068 m^3/s) Sept. 17, 22, 25, 29, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 220 ft^3/s or 6.2 m^3/s on basis of slope-conveyance computations) and peak discharges above base of 750 ft^3/s (21.2 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0715	2,200	62.3	7.36	2.243
Feb. 15	Unknown	*13,500	382	a13.8	4.206
Feb. 20	Unknown	Unknown	----	Unknown	-----
Aug. 13	2230	1,950	55.2	7.09	2.161

Minimum daily, 9.5 ft^3/s (0.269 m^3/s) Oct. 27, 28.
a From high-water mark inside gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	10	11	270	131	61	31	17	14	13	10
2	10	10	10	11	200	113	62	30	17	14	12	10
3	10	10	10	11	160	172	59	28	17	13	50	10
4	10	10	10	11	130	223	62	27	16	13	15	33
5	10	10	10	11	105	184	72	27	16	13	12	72
6	10	10	10	11	94	147	61	28	16	13	12	26
7	10	11	10	11	88	186	55	26	16	13	12	16
8	10	14	10	11	80	141	49	26	16	13	12	25
9	10	11	10	13	73	116	47	25	16	12	12	16
10	10	10	11	46	63	103	45	24	16	13	12	13
11	10	10	11	101	46	395	42	24	15	13	12	22
12	10	10	11	96	36	395	40	24	15	12	28	14
13	10	10	11	79	36	223	39	24	15	15	40	13
14	10	10	10	52	2100	157	38	23	14	13	135	13
15	10	10	11	159	3700	127	37	23	14	12	22	13
16	10	10	11	118	820	109	35	23	14	12	14	12
17	10	10	11	61	500	94	34	22	14	12	12	12
18	10	10	11	61	390	87	34	22	14	12	11	11
19	10	10	11	198	750	87	33	21	14	12	11	12
20	10	10	11	141	2100	82	32	20	14	12	11	12
21	60	10	12	147	1400	75	31	20	14	12	11	11
22	20	10	13	116	1120	76	30	19	13	12	11	11
23	14	10	12	75	710	82	30	19	13	13	11	12
24	10	10	11	55	400	90	30	19	13	13	49	12
25	10	10	11	46	290	106	30	19	13	13	39	11
26	9.8	10	12	40	250	99	30	19	13	16	17	12
27	9.5	10	12	36	225	88	29	18	13	13	13	12
28	9.5	10	12	34	184	81	28	18	13	12	12	12
29	10	10	12	106	157	75	29	18	13	14	11	11
30	10	10	12	873	---	68	32	17	13	34	11	11
31	10	---	11	400	---	63	---	17	---	15	10	---
TOTAL	372.8	306	340	3141	16477	4175	1236	701	437	423	653	480
MEAN	12.0	10.2	11.0	101	568	135	41.2	22.6	14.6	13.6	21.1	16.0
MAX	60	14	13	873	3700	395	72	31	17	34	135	72
MIN	9.5	10	10	11	36	63	28	17	13	12	10	10
AC-FT	739	607	674	6230	32680	8280	2450	1390	867	839	1300	952

WTR YR 1980 TOTAL 28741.8 MEAN 78.5 MAX 3700 MIN 9.5 AC-FT 57010

NOTE.--No gage-height record Oct. 1-23, Jan. 31 to Feb. 27.

09498400 PINAL CREEK AT INSPIRATION DAM NEAR GLOBE, AZ

LOCATION.--Lat 33°34'23", long 110°54'02", in NE¼NW¼SE¼ sec.26, T.3 N., R.14 E., Gila County, Hydrologic Unit 15060103, in Tonto National Forest, on right bank 20 ft (6.1 m) upstream from Inspiration Dam, 3.8 mi (6.11 km) upstream from mouth, and 14 mi (22.5 km) northeast of the town of Globe.

DRAINAGE AREA.--195 mi^2 (505 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 24, 1980 to September 30, 1980.

GAGE.--Water-stage recorder. Altitude of gage is about 2,800 ft (853 m) from topographic map.

REMARKS.--Records good except those above 12 ft^3/s (0.3 m^3/s), which are fair.

COOPERATION.--Arizona Department of Health Services.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 872 ft^3/s (24.7 m^3/s) Aug. 13, 1980, gage height, 2.75 ft (0.838 m); minimum, 2.4 ft^3/s (0.068 m^3/s) Aug. 11, 1980, gage height, 0.70 ft (0.213 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										---	7.4	15
2										---	8.3	16
3										---	8.3	23
4										---	8.3	13
5										---	8.3	16
6										---	8.3	12
7										---	8.3	8.3
8										---	8.3	8.3
9										---	8.3	8.3
10										---	22	12
11										---	4.1	13
12										---	5.7	11
13										---	61	8.3
14										---	19	9.3
15										---	12	12
16										---	12	13
17										---	12	13
18										---	13	13
19										---	13	12
20										---	17	12
21										---	18	12
22										---	18	12
23										---	16	11
24										12	16	11
25										9.3	12	12
26										9.3	16	12
27										8.3	15	13
28										8.3	18	11
29										8.3	16	12
30										8.3	15	13
31										8.3	15	---
TOTAL										---	439.6	366.5
MEAN										---	14.2	12.2
MAX										---	61	23
MIN										---	4.1	8.3
AC-FT										---	872	727

09498400 PINAL CREEK AT INSPIRATION DAM NEAR GLOBE, AZ--Continued

PERIOD OF RECORD.--November 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV											
02...	1030	9.0	2930	8.2	15.0	16	9.0	--	52	1700	1600
27...	1445	11	2890	8.0	17.5	6.9	9.4	10	83	1700	1600
DEC											
19...	1115	11	2810	7.9	15.0	1.3	9.9	22	<1	1900	1800
JAN											
29...	1045	9.1	2780	8.0	13.0	26	9.6	13	190	1800	1700
FEB											
29...	1045	49	2260	5.7	15.0	140	9.0	32	K5	1300	1300
APR											
17...	1030	15	2750	6.7	21.5	100	8.4	19	92	1600	1600
MAY											
06...	1100	17	2610	7.5	25.0	80	7.2	20	K22	1800	1700
JUN											
04...	1145	14	2720	7.8	25.5	72	6.8	24	K6	1700	1600
JUL											
08...	1100	11	2720	6.4	27.0	3.5	7.1	22	<1	1800	1700
AUG											
27...	1045	11	2650	7.7	28.0	56	7.6	9	240	1800	1600
SEP											
10...	1045	12	2690	7.6	25.5	52	7.4	51	250	1800	1600
24...	1045	11	2730	8.0	24.5	22	10.0	1	40	1700	1600

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	PUTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV											
02...	500	120	69	.7	4.8	110	1700	47	.3	42	2770
27...	470	130	65	.7	4.6	120	1700	46	.3	37	2850
DEC											
19...	550	130	67	.7	4.1	89	1800	45	.2	45	2840
JAN											
29...	540	110	59	.6	4.0	140	1700	--	.3	45	2720
FEB											
29...	370	86	53	.6	5.2	17	1400	40	.5	38	2090
APR											
17...	490	100	61	.7	5.1	85	1500	47	.7	37	2640
MAY											
06...	520	110	64	.7	5.5	87	1600	58	.6	29	2680
JUN											
04...	510	110	60	.6	5.0	86	1700	48	.3	16	2710
JUL											
08...	530	110	65	.7	4.9	96	1600	56	.5	50	2800
AUG											
27...	520	110	64	.7	4.7	110	1600	52	.5	29	2750
SEP											
10...	520	110	64	.7	5.5	110	1700	49	.5	30	2740
24...	500	110	63	.7	4.0	110	1600	46	.4	30	2790

< Actual value is known to be less than value shown.
K Based on non-ideal colony count.

09498400 PINAL CREEK AT INSPIRATION DAM NEAR GLOBE, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
NOV										
02...	2550	3.77	47	1.0	.31	1.6	7.1	.060	.18	.010
27...	2530	3.88	29	1.0	1.9	2.9	13	.050	.15	.040
DEC										
19...	2700	3.86	0	1.1	.44	1.4	6.4	.030	.09	.060
JAN										
29...	--	3.70	74	1.2	.12	1.3	5.8	.070	.21	.020
FEB										
29...	2010	2.84	196	.95	.30	1.2	5.4	.140	.43	.000
APR										
17...	2300	3.59	80	1.0	1.0	2.0	8.9	.360	1.1	.200
MAY										
06...	2450	3.64	74	.85	1.5	2.4	11	.160	.49	.010
JUN										
04...	2510	3.69	92	.71	.84	1.5	6.7	.170	.52	.020
JUL										
08...	2480	3.81	5	.28	1.0	1.3	5.8	.120	.37	.010
AUG										
27...	2450	3.74	129	.78	.87	1.7	7.3	.180	.55	.000
SEP										
10...	2550	3.73	131	.68	.51	1.2	5.2	.150	.46	.010
24...	2420	3.79	63	.49	.44	1.0	4.5	.120	.37	.000

DATE	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
NOV										
02...	.03	4	300	110	60	1	8	470	9800	10
27...	.12	1	200	90	50	1	20	150	7300	10
DEC										
19...	.18	0	400	90	50	1	16	31	700	60
JAN										
29...	.06	2	200	100	50	0	40	870	62000	30
FEB										
29...	.00	7	500	90	50	6	60	1300	67000	40
APR										
17...	.61	4	200	110	50	3	30	1100	25000	30
MAY										
06...	.03	7	400	110	50	2	30	1300	46000	20
JUN										
04...	.06	2	500	130	50	4	0	1100	15000	30
JUL										
08...	.03	2	100	70	90	1	20	10	2800	30
AUG										
27...	.00	4	300	120	60	0	30	740	15000	40
SEP										
10...	.03	5	300	110	90	0	30	4	30000	30
24...	.00	3	200	60	70	1	30	240	14000	20

09498400 PINAL CREEK AT INSPIRATION DAM, NEAR GLOBE, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)
NOV										
02...	10	1200	550	.4	1	0	70	3.2	.00	0
27...	13	1300	520	.4	0	1	100	9.2	.00	0
DEC										
19...	4	990	--	82	1	0	30	5.3	.00	0
JAN										
29...	38	3000	870	.5	1	0	10	3.9	.00	1
FEB										
29...	60	680	540	.5	1	0	730	3.8	.00	0
APR										
17...	9	4600	260	.0	1	0	250	7.4	.00	0
MAY										
06...	28	3000	3000	.0	1	0	370	--	.00	1
JUN										
04...	6	5000	2800	.1	1	0	180	10	.00	5
JUL										
08...	1	3100	2700	.0	1	0	70	4.9	.00	+110
AUG										
27...	47	3100	1900	.1	1	2	280	3.4	.01	3
SEP										
10...	4	2800	1800	.0	1	0	260	9.2	.01	1
24...	22	2300	1400	.0	1	0	120	3.9	.00	1

+ Value verified.

09498500 SALT RIVER NEAR ROOSEVELT, AZ

LOCATION.--Lat 33°37'10", long 110°55'15", in SE¼NE¼ sec.9, T.3 N., R.14 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in Tonto National Forest on left bank 100 ft (30 m) downstream from bridge on State Highway 288, 0.3 mi (0.5 km) downstream from Pinal Creek, 1 mi (2 km) upstream from diversion dam for power canal, 14 mi (23 km) east of village of Roosevelt, and 17 mi (27 km) upstream from Roosevelt Dam.

DRAINAGE AREA.--4,306 mi^2 (11,153 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1913 to current year (monthly discharge only January to September 1913) see WSP 1313.

REVISED RECORDS.--WSP 1049: 1914, 1916, 1918-19, 1926. WSP 1343: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,177.14 ft (663.592 m) National Geodetic Vertical Datum of 1929. Prior to 1925, nonrecording gage at diversion dam about 1 mi (2 km) downstream at different datum. Nonrecording gage at present site and datum 1925 to Jan. 17, 1935. May 20, 1955, to July 30, 1959, supplementary water-stage recorder at diversion dam.

REMARKS.--Records fair. Several small diversions for irrigation of about 4,000 acres (16.2 km^2) above station and two transbasin diversions above station, one into basin from Show Low Creek and one out of basin to Willow Creek. Records show inflow to Roosevelt Lake. Tonto Creek also contributes to Roosevelt Lake; see records elsewhere in this report.

AVERAGE DISCHARGE.--67 years, 880 ft^3/s (24.92 m^3/s), 637,600 acre-ft/yr (786 hm^3/yr); median of yearly mean discharges, 680 ft^3/s (19.3 m^3/s), 493,000 acre-ft/yr (608 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 117,000 ft^3/s (3,310 m^3/s) Mar. 14, 1941, gage height, 24.4 ft (7.44 m), from rating curve extended above 55,000 ft^3/s (1,600 m^3/s) on basis of velocity-area studies and float-area measurements at 66,000 ft^3/s (1,870 m^3/s) and 102,000 ft^3/s (2,890 m^3/s); maximum gage height, 29.35 ft (8.946 m) Dec. 19, 1978; minimum discharge, 59 ft^3/s (1.67 m^3/s) all or part of each day, July 1-4, 7-12, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of about 42 ft^3/s (1.19 m^3/s) was reported Aug. 5, 1911.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from computation of peak flow over dam) and peak discharges above base of 4,000 ft^3/s (113 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 20	0130	4,580	130	10.63	3.240
Jan. 30	2200	20,500	580	16.00	4.877
Feb. 15	unknown	*99,000	2,800	28.0	8.53
Feb. 20	0600	46,100	1,305	21.1	6.431
Mar. 12	1300	7,190	204	11.78	3.591
Apr. 12	0500	5,020	142	10.66	3.249
Apr. 23	0230	6,720	190	11.40	3.475
Apr. 30	0800	5,090	144	10.55	3.216

Minimum daily, 167 ft^3/s (4.73 m^3/s) Oct. 1, 2, 11-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	230	234	291	4540	3200	1610	4610	1310	499	310	350
2	167	230	230	283	3120	3060	1610	3960	1280	568	330	300
3	170	230	227	283	2350	2960	1560	3670	1240	470	340	300
4	170	230	224	287	1810	3350	1560	3540	1200	399	350	300
5	170	230	217	291	1560	3160	1770	3600	1170	378	360	250
6	170	237	227	287	1380	2960	2070	3690	1170	349	370	300
7	176	256	234	283	1290	2760	2730	3540	1160	335	390	450
8	176	295	241	291	1240	2780	3420	3770	1120	326	400	450
9	172	359	245	304	1170	2440	3730	3730	1110	354	415	400
10	170	359	245	349	1060	2350	4020	3690	1100	349	430	400
11	167	317	248	439	954	3060	4560	3490	1100	354	440	500
12	167	317	246	750	849	6380	4770	3330	1100	368	451	550
13	167	299	248	1460	849	4100	4100	2910	1060	399	516	400
14	170	287	245	893	5730	3060	3450	2590	986	451	1280	350
15	172	283	245	800	60100	2780	3280	2420	939	410	665	300
16	172	279	241	1080	46700	2870	3640	2390	885	373	549	300
17	172	275	237	1040	12500	2740	4100	2260	841	364	482	300
18	176	275	230	752	10200	2520	4610	2200	799	340	422	304
19	182	271	227	1380	11300	2440	5070	2220	758	317	364	279
20	188	271	234	3990	32500	2470	5400	2200	729	312	321	279
21	287	267	241	2640	20400	2280	5610	2260	690	349	287	263
22	405	267	259	2050	13600	2280	5930	2340	637	368	275	252
23	241	259	279	1660	8380	2350	6340	2420	602	321	275	241
24	230	252	295	1180	5340	2280	5720	2390	568	344	526	234
25	230	248	291	878	3920	2100	4870	2200	530	403	1070	224
26	230	241	291	713	3010	2080	3920	1960	493	373	582	224
27	230	241	299	645	2580	1920	3490	1760	476	340	500	220
28	230	245	304	588	2340	1840	3560	1600	464	330	450	245
29	230	248	304	588	2320	1840	4080	1470	439	304	400	256
30	230	245	299	9420	---	1750	4870	1430	427	304	400	259
31	230	---	295	9540	---	1550	---	1360	---	299	350	---
TOTAL	6214	8043	7884	45435	263092	83730	115450	85000	26383	11450	14300	9480
MEAN	200	268	254	1466	9072	2701	3848	2742	879	369	461	316
MAX	405	359	304	9540	60100	6380	6340	4610	1310	568	1280	550
MIN	167	230	217	283	849	1550	1560	1360	427	299	275	220
AC-FT	12330	15950	15640	90120	521800	166100	229000	168600	52330	22710	28360	18800

CAL YR 1979 TOTAL 729969 MEAN 2000 MAX 27800 MIN 167 AC-FT 1448000
WTR YR 1980 TOTAL 676461 MEAN 1848 MAX 60100 MIN 167 AC-FT 1342000

09498500 SALT RIVER NEAR ROOSEVELT, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1958 to October 1967, January 1976 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: April 1958 to October 1967.

INSTRUMENTATION.--Water temperature recorder from April 1958 to October 1967.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
NOV												
02...	1430	227	3480	8.6	14.5	13	9.2	--	K8	440	280	110
27...	0945	245	3250	8.1	8.0	1.2	10.8	37	3	390	200	100
DEC												
19...	1415	234	3310	8.2	10.0	.50	11.9	49	1	390	280	100
JAN												
29...	1415	588	1500	--	9.0	9.0	9.4	14	K6	230	110	62
FEB												
28...	1145	2340	561	7.9	11.0	24	10.5	21	K7	160	71	46
APR												
17...	1515	4220	365	7.3	16.0	31	11.0	7	2	88	31	26
MAY												
06...	1430	3730	397	7.4	17.5	13	9.0	14	K3	85	28	24
JUN												
04...	1515	1170	811	8.5	23.0	2.6	7.5	11	K9	130	52	37
JUL												
08...	1515	344	2040	7.8	29.5	19	7.3	6	K12	300	160	82
AUG												
27...	1500	500	1060	8.3	27.5	86	7.9	26	660	190	68	52
SEP												
10...	1515	550	1860	8.4	25.5	140	8.1	21	2400	290	130	78
24...	1430	230	2510	8.6	24.0	33	11.2	4	K19	330	180	85

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACU3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV											
02...	40	510	11	12	160	190	910	.2	19	1900	1890
27...	35	520	11	13	190	190	810	.2	16	1780	1800
DEC											
19...	35	520	11	13	110	190	850	.2	21	1870	1800
JAN											
29...	18	220	6.3	5.5	120	94	340	.2	18	842	830
FEB											
28...	12	50	1.7	2.5	93	73	73	.2	19	333	332
APR											
17...	5.6	38	1.8	1.7	57	28	56	.1	16	210	206
MAY											
06...	6.2	46	2.2	1.9	57	31	66	.1	17	226	227
JUN											
04...	10	110	4.1	3.4	82	46	180	.3	17	455	453
JUL											
08...	24	300	7.5	9.5	140	120	520	.2	15	1170	1160
AUG											
27...	14	150	4.8	5.2	120	75	230	.2	19	613	618
SEP											
10...	22	280	7.2	9.6	160	120	460	.3	19	1080	1090
24...	28	410	9.9	9.0	150	140	640	.3	14	1460	1420

K Based in non-ideal colony count.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)
NOV											
02...	2.58	26	.04	.66	.71	3.1	.020	.06	.010	.03	6
27...	2.42	3	.04	.39	.44	1.9	.030	.09	.070	.21	4
DEC											
19...	2.54	0	.04	.25	.28	1.2	.000	.00	.010	.03	6
JAN											
29...	1.15	11	.04	.25	.29	1.3	.020	.06	.020	.06	4
FEB											
28...	.45	76	.14	.08	.22	.97	.290	.89	.080	.25	3
APR											
17...	.29	90	.04	.52	.55	2.4	.210	.64	.050	.15	2
MAY											
06...	.31	29	.02	.45	.45	2.0	.070	.21	.050	.15	2
JUN											
04...	.62	19	.09	.44	.53	2.3	.060	.18	.050	.15	3
JUL											
08...	1.59	29	.00	.62	.62	2.7	.090	.28	.010	.03	5
AUG											
27...	.83	254	.01	1.1	1.1	4.9	.250	.77	.000	.00	5
SEP											
10...	1.47	127	.03	1.3	1.3	5.8	.210	.64	.020	.06	8
24...	1.99	51	.00	.50	.50	2.2	.070	.21	.000	.00	7

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV											
02...	300	340	310	0	0	5	260	10	1	60	20
27...	300	330	280	0	0	0	480	20	6	50	30
DEC											
19...	400	310	280	0	12	2	60	20	4	40	30
JAN											
29...	200	150	140	0	0	5	460	10	3	40	20
FEB											
28...	300	80	60	1	10	70	4000	<10	46	180	110
APR											
17...	200	70	30	0	10	7	2700	50	1	80	9
MAY											
06...	200	60	30	0	0	9	1000	40	3	50	10
JUN											
04...	<100	160	70	0	10	18	880	<10	4	60	20
JUL											
08...	<100	170	150	0	10	3	380	20	0	90	20
AUG											
27...	200	130	90	0	20	21	4500	<10	7	260	10
SEP											
10...	200	190	200	0	0	4	4000	<10	3	220	20
24...	100	240	320	0	10	12	860	20	4	90	20

< Actual value is known to be less than value shown.

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)
NOV											
02...	.5	0	0	40	3.0	.00	2	--	--	--	--
27...	†5.6	0	1	10	16	.00	0	--	--	--	--
DEC											
19...	†2.0	0	0	0	5.8	.00	0	--	--	--	--
JAN											
29...	†2.0	0	0	40	10	.00	2	--	--	--	--
FEB											
28...	.7	0	0	120	4.7	.00	1	--	--	--	--
APR											
17...	.1	0	0	40	5.4	.00	--	--	--	--	--
MAY											
06...	.0	0	0	30	4.8	.00	0	--	--	--	--
JUN											
04...	.1	0	0	60	5.6	.00	0	--	--	--	--
JUL											
08...	.1	0	0	90	8.4	.00	+24	--	--	--	--
AUG											
27...	.1	0	0	30	5.7	†.02	+10	13.3	132	10.6	1.33
SEP											
10...	.0	0	0	40	8.7	.01	1	--	--	--	--
24...	.0	0	0	30	5.1	.00	+8	--	--	--	--

† Value verified.

09498500 SALT RIVER NEAR ROOSEVELT, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE	JUL 8,80		JUL 8,80		JUL 8,80		AUG 27,80		AUG 27,80		AUG 27,80	
TIME	1515		1520		1525		1445		1500		1515	
TOTAL CELLS/ML	13000		13000		11000		1200		560		800	
DIVERSITY: DIVISION	0.7		0.9		1.1		1.0		1.6		1.0	
.CLASS	0.7		0.9		1.1		1.0		1.6		1.0	
..ORDER	1.0		1.2		1.6		1.2		1.8		1.3	
...FAMILY	1.9		1.2		1.8		2.7		2.5		3.0	
....GENUS	2.3		1.7		2.1		3.2		2.6		3.1	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
BACILLARIOPHYTA (KARSTEN)												
.BACILLARIOPHYCEAE												
..NAVICULALES												
...NAVICULACEAE												
....CAMPYLODISCUS	--	-	--	-	--	-	14	1	--	-	--	-
....CAMPYLOTOGRAMMA	--	-	--	-	--	-	14	1	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	100	1	--	-	--	-	--	-	14	3	55	7
...COELASTRACEAE												
....COELASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	100	1	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	1200	9	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	7100#	55	8200#	62	6300#	59	140	12	130#	23	83	10
....CHLORELLA	510	4	910	7	82	1	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	160	2	--	-	--	-	14	2
....CLOSTERIOPSIS	--	-	--	-	--	-	14	1	--	-	--	-
....DICTYOSPHAERIUM	--	-	400	3	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	28	2	14	3	--	-
....OOCYSTIS	400	3	--	-	160	2	69	6	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....ACTINASTRUM	--	-	--	-	--	-	55	5	--	-	--	-
....SCENEDESMUS	1200	9	--	-	330	3	110	9	29	5	83	10
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	610	5	710	5	330	3	--	-	--	-	--	-
....CHLOROGONIUM	--	-	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	400	3	400	3	330	3	28	2	29	5	28	3
....MELOSIRA	--	-	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-	14	2
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	--	-	28	2	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	28	2	--	-	55	7
...CYMBELLACEAE												
....AMPHORA	--	-	--	-	--	-	--	-	14	3	--	-
....CYMBELLA	--	-	--	-	--	-	28	2	--	-	--	-
....EPITHEMIA	--	-	--	-	--	-	96	8	--	-	110	14
...FRAGILARIACEAE												
....SYNEDRA	--	-	--	-	160	2	28	2	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	--	-	--	-	--	-	--	-	--	-	14	2
...NAVICULACEAE												
....MASTOGLOIA	--	-	--	-	--	-	--	-	14	3	--	-
....NAVICULA	--	-	--	-	--	-	170	14	14	3	140#	17
...NITZSCHIACEAE												
....HANTZSCHIA	--	-	--	-	--	-	--	-	--	-	--	-
....NITZSCHIA	100	1	100	1	160	2	360#	30	160#	28	190#	24
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	1100	9	2400#	18	990	9	--	-	--	-	14	2
..HORMOGONALES												
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	1600#	16	--	-	140#	26	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09498500 SALT RIVER NEAR ROOSEVELT, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE	JUL 03,80		JUL 03,80		JUL 03,80		AUG 27,80		AUG 27,80		AUG 27,80	
TIME	1515		1520		1525		1045		1500		1515	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09498500 SALT RIVER NEAR ROOSEVELT, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE	SEP 10,80		SEP 10,80		SEP 10,80		SEP 24,80		SEP 24,80		SEP 24,80	
TIME	1455		1500		1515		1420		1425		1430	
TOTAL CELLS/ML	1600		1700		1600		1500		1400		1700	
DIVERSITY: DIVISION	1.4		1.5		1.5		1.6		1.5		1.5	
.CLASS	1.4		1.5		1.5		1.6		1.5		1.5	
..ORDER	1.6		2.0		2.2		1.9		1.8		1.7	
...FAMILY	2.4		2.6		2.6		2.6		2.5		2.3	
....GENUS	2.5		2.8		3.1		3.1		3.0		2.5	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
BACILLARIOPHYTA (KARSTEN)												
.BACILLARIOPHYCEAE												
..NAVICULALES												
...NAVICULACEAE												
....CAPARTOGRAMMA	--	-	--	-	--	-	--	-	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACTACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE												
....COELASTRUM	--	-	--	-	--	-	130	8	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	96	5	280#	16	210	13	260#	17	400#	30	280#	17
....CHLORELLA	--	-	--	-	--	-	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	--	-	--	-	--	-	--	-
....CLOSTERIOPSIS	--	-	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	14	1	--	-	13	1	26	2	--	-
....KIRCHNERIELLA	--	-	28	2	14	1	--	-	52	4	--	-
....OOCYSTIS	--	-	--	-	82	5	26	2	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	64	4	13	1	52	3
....TETRAEDRON	--	-	--	-	--	-	--	-	13	1	26	2
...SCENEDESMACEAE												
....ACTINASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
....SCENEDESMUS	55	3	41	2	27	2	140	9	270#	20	320#	19
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	14	1	--	-	27	2	90	6	39	3	65	4
....CHLOROGONIUM	14	1	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	92	5	96	6	120	8	13	1	26	2	13	1
....MELOSIRA	--	-	--	-	55	3	--	-	26	2	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	14	1	--	-	27	2	--	-	--	-	13	1
....COCCONEIS	--	-	14	1	27	2	--	-	--	-	--	-
...CYMBELLACEAE												
....AMPHORA	--	-	--	-	--	-	--	-	--	-	--	-
....CYMBELLA	41	2	14	1	14	1	--	-	--	-	--	-
....EPITHEMIA	27	2	28	2	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....SYNEDRA	14	1	--	-	--	-	26	2	26	2	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	27	2	14	1	27	2	--	-	--	-	--	-
...NAVICULACEAE												
....MASTOGLOIA	--	-	--	-	--	-	--	-	--	-	--	-
....NAVICULA	100	8	120	7	150	9	90	6	26	2	39	2
...NITZSCHIACEAE												
....HANTZSCHIA	14	1	--	-	--	-	--	-	--	-	--	-
....NITZSCHIA	450#	25	590#	35	250#	16	370#	24	220#	16	220	13
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	--	-	--	-	13	1	26	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	170	10	69	4	300#	19	180	13	630#	38
..HORMOGONALES												
...OSCILLATORIACEAE												
....OSCILLATORIA	820#	45	280#	16	490#	31	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09498500 SALT RIVER NEAR ROOSEVELT, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE	SEP 10,80		SEP 10,80		SEP 10,80		SEP 24,80		SEP 24,80		SEP 24,80	
TIME	1455		1500		1515		1420		1425		1440	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	--	-	--	-	15	1	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	15	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09498870 RYE CREEK NEAR GISELA, AZ

LOCATION.--Lat 34°01'57", long 111°17'26", in SW¼ sec.13, T.8 N., R.10 E., Gila County, Hydrologic Unit 15060105, in Tonto National Forest, on right bank, 0.5 mi (0.8 km) upstream from mouth, 0.8 mi (1.3 km) downstream from bridge on county road, and 4.8 mi (7.7 km) south of Gisela.

DRAINAGE AREA.--122 mi^2 (316 km^2).

PERIOD OF RECORD.--December 1965 to current year.

REVISED RECORDS.--WRD Ariz. 1969: 1967.

GAGE.--Water-stage recorder. Altitude of gage is 2,730 ft (832 m), from topographic map. Prior to Dec. 19, 1967, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--14 years, 26.7 ft^3/s (0.756 m^3/s), 19,340 acre-ft/yr (23.8 hm^3/yr); median of yearly mean discharges, 14 ft^3/s (0.40 m^3/s), 10,100 acre-ft/yr (12 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,400 ft^3/s (1,260 m^3/s) Sept. 5, 1970, gage height, 14.1 ft (4.30 m), in gage well, 18.7 ft (5.70 m), from profile past gage, from rating curve extended above 850 ft^3/s (24 m^3/s) on basis of slope-area measurements at gage heights 9.0 and 14.1 ft (2.74 and 4.30 m), present datum; minimum daily, 0.20 ft^3/s (0.006 m^3/s) July 5, 6, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 1,100 ft^3/s or 31 m^3/s on basis of slope-area measurement at gage height 14.1 ft or 4.30 m) and peak discharges above base of 600 ft^3/s (17 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	0700	630	17.8	2.10	0.640
Jan. 18	1930	1,230	34.8	3.00	0.914
Jan. 29	2230	2,450	69.4	4.25	1.295
Feb. 15	1030	3,770	107	5.25	1.600
Feb. 19	2300	*4,550	129	5.75	1.753
Feb. 21	1600	2,060	58.3	3.90	1.189
Mar. 7	0100	739	20.9	2.25	0.686
Aug. 13	2100	652	18.5	1.85	0.564
Aug. 24	1130	2,720	77.0	4.48	1.366

Minimum daily, 1.8 ft^3/s (0.051 m^3/s) on several days in October, December, and January.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.9	2.0	1.8	143	102	48	19	7.6	4.3	4.3	3.0
2	2.1	2.0	2.0	1.9	104	75	57	18	7.2	3.9	4.6	3.0
3	2.1	2.0	1.9	1.9	82	103	53	18	7.2	3.9	4.3	3.0
4	2.1	2.0	1.9	1.9	71	142	57	17	7.2	3.8	4.3	17
5	2.1	2.1	1.9	1.8	60	110	64	16	6.8	3.8	4.0	9.8
6	2.0	2.1	1.9	1.8	54	99	60	16	6.8	3.8	4.3	5.6
7	2.0	2.1	1.9	1.9	50	410	58	14	6.8	3.8	4.0	5.3
8	2.0	2.1	1.9	1.9	45	271	53	14	6.4	3.5	4.0	5.6
9	2.0	2.1	1.9	2.0	40	219	44	12	6.4	3.5	4.3	4.9
10	2.0	2.0	1.8	43	36	193	48	12	6.0	3.4	4.9	4.9
11	2.0	2.1	1.8	511	33	408	46	12	5.6	3.4	4.6	4.6
12	2.0	2.1	1.8	417	30	382	41	14	5.6	3.4	7.7	4.6
13	2.0	2.1	1.8	152	27	255	38	12	5.6	69	42	4.6
14	2.0	2.1	1.8	99	918	207	33	12	5.6	6.4	207	4.6
15	1.9	2.1	1.8	267	2310	175	31	11	4.9	4.0	19	4.9
16	1.9	2.2	1.8	136	790	149	27	12	4.6	4.0	4.9	4.9
17	1.9	2.2	1.8	99	541	118	26	11	4.4	3.9	4.3	4.6
18	1.9	2.2	1.8	397	641	97	27	10	4.3	3.8	4.3	4.6
19	1.8	2.1	1.8	365	1420	92	24	10	4.3	3.9	4.0	4.6
20	1.8	2.1	1.8	184	1850	69	20	9.1	4.0	4.7	4.0	4.4
21	1.8	2.1	1.8	159	1520	64	18	8.6	4.0	4.4	3.9	4.4
22	1.8	2.1	1.8	131	1140	60	11	8.6	4.0	4.3	3.9	4.3
23	1.8	2.1	1.8	104	788	69	14	7.6	3.9	4.0	3.9	4.3
24	1.8	2.1	1.8	80	546	73	16	7.6	3.9	4.0	290	4.3
25	1.8	2.1	1.8	64	350	75	15	7.6	3.9	4.1	9.4	4.0
26	1.9	2.1	1.9	53	257	73	14	7.6	3.9	5.1	3.8	3.9
27	1.9	2.1	1.9	40	204	78	14	8.1	3.9	4.6	3.4	3.9
28	1.9	2.1	1.9	32	165	73	12	7.6	3.9	4.4	3.2	3.9
29	1.9	2.0	1.9	548	139	64	12	7.6	3.9	4.3	3.4	3.8
30	2.0	2.0	1.9	925	---	57	17	7.2	3.9	4.4	3.4	3.5
31	1.9	---	1.8	306	---	49	---	7.6	---	4.4	3.2	---
TOTAL	60.2	62.5	57.4	5128.9	14354	4411	998	354.8	156.5	192.2	676.3	148.8
MEAN	1.94	2.08	1.85	165	495	142	33.3	11.4	5.22	6.20	21.8	4.96
MAX	2.1	2.2	2.0	925	2310	410	64	19	7.6	69	290	17
MIN	1.8	1.9	1.8	1.8	27	49	11	7.2	3.9	3.4	3.2	3.0
AC-FT	119	124	114	10170	28470	8750	1980	704	310	381	1340	295

CAL YR 1979 TOTAL 20805.2 MEAN 57.0 MAX 3000 MIN 1.8 AC-FT 41270
WTR YR 1980 TOTAL 26600.6 MEAN 72.7 MAX 2310 MIN 1.8 AC-FT 52760

09499000 TONTO CREEK ABOVE GUN CREEK, NEAR ROOSEVELT, AZ

LOCATION.--Lat 33°58'48", long 111°18'10", in SW¼NE¼ sec.2, T.7 N., R.10 E., Gila County, Hydrologic Unit 15060105, in Tonto National Forest, on left bank 600 ft (183 m) upstream from Gun Creek, 17 mi (27 km) upstream from high-water line of Roosevelt Lake, and 24 mi (39 km) northwest of Roosevelt.

DRAINAGE AREA.--675 mi^2 (1,750 km^2).

PERIOD OF RECORD.--December 1940 to current year.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,523.14 ft (769.053 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--39 years (water years 1942-80), 146 ft^3/s (4.135 m^3/s), 105,800 acre-ft/yr (130 hm^3/yr); median of yearly mean discharges, 85 ft^3/s (2.41 m^3/s), 61,600 acre-ft/yr (76 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,400 ft^3/s (1,740 m^3/s) Jan. 17, 1979 and Feb. 15, 1980, gage height, 17.0 ft (5.18 m), maximum gage height, 18.2 ft (5.55 m) Sept. 5, 1970; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,700 ft^3/s (48 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	2200	3,020	85.5	5.95	1.814
Jan. 15	1130	4,530	128	6.65	2.027
Jan. 18	2400	5,140	146	6.83	2.082
Jan. 30	0700	28,000	794	12.13	3.697
Feb. 15	1500	*61,400	1,740	17.0	5.18
Feb. 20	0030	57,200	1,620	16.5	5.03
Mar. 7	0730	2,610	73.9	5.78	1.762
Mar. 11	1600	5,390	153	6.90	2.103
Aug. 13	2130	4,100	116	6.45	1.966
Aug. 24	1200	4,260	121	6.52	1.987

Minimum daily, 7.7 ft^3/s (0.218 m^3/s) Sept. 23.

REVISIONS.--The maximum discharges for water years 1978 and 1979 have been revised to 57,200 ft^3/s (1,620 m^3/s) Mar. 2, 1978, gage height, 16.50 ft (5.029 m), and 61,400 ft^3/s (1,740 m^3/s) Jan. 17, 1979, gage height, 17.0 ft (5.18 m), from high-water mark inside gage well, superseding figures published in reports for 1978 and 1979.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	22	24	26	1950	587	294	244	60	229	44	35
2	15	22	24	26	1110	474	339	225	60	77	44	21
3	15	22	24	24	659	556	345	216	60	45	35	21
4	12	22	24	23	467	1170	433	203	60	35	44	43
5	12	23	24	22	363	1180	419	221	55	32	40	106
6	13	23	24	22	316	983	413	207	55	20	31	57
7	13	24	23	22	274	1940	400	199	47	18	20	45
8	13	30	23	22	239	1490	381	186	44	19	16	61
9	13	38	26	26	203	1200	363	174	42	19	20	49
10	13	35	26	354	174	1080	400	159	40	18	22	49
11	13	27	26	2260	155	3290	406	152	40	18	21	47
12	14	27	26	2460	138	3230	333	155	38	19	26	44
13	15	27	26	1500	138	1970	268	138	37	79	288	37
14	16	27	23	784	13300	1330	254	128	37	51	512	30
15	16	27	23	2530	32600	1070	274	124	37	27	115	27
16	18	27	23	1040	4500	761	324	134	37	21	55	27
17	18	28	23	409	3240	579	339	118	35	22	37	26
18	18	28	23	786	4410	481	339	112	35	21	32	26
19	18	27	23	3610	10200	481	339	109	35	21	31	23
20	16	27	24	2420	17600	474	339	69	32	30	30	15
21	19	27	26	2040	11300	419	339	84	32	28	28	9.8
22	54	27	34	1460	6980	433	339	82	32	59	26	9.0
23	32	27	38	1020	3330	488	254	79	31	82	19	7.7
24	28	26	32	733	2240	563	199	79	30	59	1160	9.0
25	27	26	27	579	1640	579	163	73	28	55	442	9.8
26	24	26	26	503	1260	488	141	72	27	34	121	10
27	23	26	32	426	1060	439	159	70	27	34	77	12
28	22	26	37	363	898	339	182	69	26	34	55	13
29	22	26	30	903	798	351	221	65	26	37	45	13
30	22	24	27	14800	---	322	279	63	26	74	42	13
31	22	---	26	3480	---	311	---	60	---	53	38	---
TOTAL	591	794	817	44693	121542	29058	9278	4089	1171	1370	3516	895.3
MEAN	19.1	26.5	26.4	1442	4191	937	309	132	39.0	44.2	113	29.8
MAX	54	38	38	14800	32600	3290	433	244	60	229	1160	106
MIN	12	22	23	22	138	311	141	60	26	18	16	7.7
AC-FT	1170	1570	1620	88650	241100	57640	18400	8110	2320	2720	6970	1780

CAL YR 1979	TOTAL	149241.0	MEAN 409	MAX 24000	MIN 12	AC-FT 296000
WTR YR 1980	TOTAL	217814.3	MEAN 595	MAX 32600	MIN 7.7	AC-FT 432000

09501000 RESERVOIR SYSTEM ON SALT RIVER AT AND BELOW ROOSEVELT DAM, AZ

LOCATION.--This system comprises four storage reservoirs created by four separate dams on Salt River, Hydrologic Unit 15060106: Roosevelt Lake, formed by Roosevelt Dam in sec.20, T.4 N., R.12 E. (unsurveyed), on State Highway 88; Apache Lake, formed by Horse Mesa Dam, 17 mi (27 km) downstream from Roosevelt Dam; Canyon Lake, formed by Mormon Flat Dam, 27 mi (43 km) downstream from Roosevelt Dam; Saguaro Lake, formed by Stewart Mountain Dam, 37 mi (60 km) downstream from Roosevelt Dam. Contents given herein are combined contents of the four reservoirs.

DRAINAGE AREA.--6,211 mi^2 (16,086 km^2), at Stewart Mountain Dam.

PERIOD OF RECORD.--April 1910 to current year. Prior to October 1934, monthend contents only, published in WSP 1313. Evaporation: April 1958 to June 1963.

REVISED RECORDS.--WSP 1283: Drainage area. WRD Ariz. 1975: 1974.

GAGES.--Roosevelt Lake, water-stage indicator in powerplant connected to long distance transmitter on lake (water-stage recorder prior to Jan. 1, 1967); Apache Lake, water-stage indicator in powerplant connected to long distance transmitter on lake since April 1949 (prior to that date, nonrecording gage or reference mark); Canyon and Saguaro Lakes, mercury column gages.

REMARKS.--Total capacity of the four reservoirs is 1,755,000 acre-ft (2,160 hm^3), divided as follows: Roosevelt Lake, 1,382,000 acre-ft (1,700 hm^3); Apache Lake, 245,000 acre-ft (302 hm^3); Canyon Lake, 58,000 acre-ft (71.5 hm^3); Saguaro Lake, 70,000 acre-ft (86.3 hm^3). Dead storage negligible. Dams forming these reservoirs were built as follows: Roosevelt 1905-11; Horse Mesa 1924-27; Mormon Flat 1923-26; Stewart Mountain 1928-30. The four dams forming these reservoirs completely develop the fall in the Salt River from Roosevelt Lake to Stewart Mountain Dam. Elevation of water surface varies from 1,422.0 ft (433.43 m), sill of lowest outlet in Stewart Mountain Dam, to 2,136 ft (651.1 m), top of spillway gates in raised position on Roosevelt Dam. During the 1980 water year spill over Roosevelt Dam because of capacity or near capacity storage occurred during the following periods: Jan. 31 to Feb. 7, Feb. 14 to Mar. 17, Mar. 21 to May 5, and May 12-14. See 1978 and 1979 reports for dates of spill prior to 1980 water year. Records given herein represent usable contents. Water from this system is used for irrigation of Salt River Valley and for generation of power.

COOPERATION.--Records of daily contents furnished by Salt River Valley Water Users' Association.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents of system, 1,764,000 acre-ft (2,180 hm^3) May 22, 1941; minimum, 20,680 acre-ft (25.5 hm^3) Sept. 16, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum contents of system, 1,745,000 acre-ft (2,150 hm^3) May 19-22; minimum, 1,416,000 acre-ft (1,750 hm^3) Nov. 1-2.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1459000	1416000	1425000	1438000	1605000	1487000	1643000	1719000	1734000	1688000	1586000	1508000
2	1456000	1416000	1425000	1438000	1607000	1480000	1641000	1721000	1733000	1686000	1583000	1506000
3	1453000	1417000	1427000	1439000	1603000	1475000	1640000	1720000	1733000	1683000	1579000	1503000
4	1450000	1417000	1427000	1439000	1598000	1471000	1639000	1722000	1731000	1679000	1577000	1500000
5	1449000	1417000	1428000	1439000	1592000	1469000	1637000	1722000	1731000	1675000	1574000	1498000
6	1445000	1418000	1429000	1440000	1584000	1477000	1634000	1723000	1729000	1671000	1571000	1497000
7	1443000	1418000	1428000	1441000	1577000	1489000	1631000	1727000	1728000	1667000	1569000	1494000
8	1441000	1418000	1428000	1440000	1569000	1493000	1630000	1730000	1727000	1664000	1566000	1492000
9	1439000	1419000	1428000	1441000	1561000	1501000	1631000	1734000	1725000	1660000	1564000	1490000
10	1439000	1419000	1428000	1442000	1561000	1508000	1634000	1737000	1725000	1655000	1561000	1486000
11	1435000	1420000	1429000	1445000	1561000	1516000	1636000	1738000	1724000	1651000	1559000	1483000
12	1431000	1421000	1430000	1450000	1562000	1533000	1640000	1740000	1723000	1648000	1556000	1480000
13	1430000	1421000	1430000	1446000	1561000	1551000	1644000	1741000	1721000	1647000	1551000	1477000
14	1429000	1422000	1429000	1459000	1562000	1563000	1646000	1741000	1720000	1640000	1551000	1475000
15	1429000	1422000	1429000	1462000	1622000	1572000	1648000	1742000	1717000	1637000	1551000	1472000
16	1427000	1421000	1430000	1468000	1735000	1580000	1650000	1742000	1717000	1633000	1548000	1469000
17	1426000	1422000	1430000	1471000	1686000	1587000	1653000	1743000	1719000	1628000	1547000	1467000
18	1425000	1422000	1431000	1475000	1624000	1594000	1656000	1743000	1718000	1626000	1544000	1464000
19	1425000	1423000	1431000	1480000	1590000	1601000	1660000	1745000	1716000	1622000	1541000	1460000
20	1424000	1423000	1431000	1488000	1620000	1607000	1666000	1745000	1714000	1618000	1538000	1457000
21	1424000	1422000	1432000	1498000	1663000	1614000	1673000	1745000	1712000	1614000	1535000	1453000
22	1423000	1423000	1431000	1504000	1655000	1619000	1678000	1745000	1710000	1612000	1531000	1450000
23	1423000	1423000	1433000	1510000	1618000	1625000	1686000	1744000	1708000	1610000	1529000	1447000
24	1422000	1423000	1433000	1514000	1573000	1631000	1693000	1743000	1705000	1609000	1527000	1445000
25	1421000	1423000	1434000	1517000	1539000	1637000	1699000	1742000	1703000	1604000	1524000	1442000
26	1420000	1424000	1435000	1518000	1517000	1644000	1703000	1742000	1701000	1602000	1525000	1439000
27	1420000	1424000	1435000	1521000	1509000	1648000	1706000	1741000	1698000	1599000	1523000	1437000
28	1419000	1424000	1436000	1523000	1499000	1648000	1708000	1740000	1696000	1598000	1521000	1434000
29	1418000	1424000	1438000	1524000	1491000	1647000	1710000	1738000	1693000	1594000	1517000	1432000
30	1418000	1424000	1438000	1539000	---	1646000	1715000	1737000	1691000	1591000	1515000	1430000
31	1417000	---	1437000	1593000	---	1644000	---	1735000	---	1588000	1512000	---
MAX	1459000	1424000	1438000	1593000	1735000	1648000	1715000	1745000	1734000	1688000	1586000	1508000
MIN	1417000	1416000	1425000	1438000	1491000	1469000	1630000	1719000	1691000	1588000	1512000	1430000
(†)	-43000	+9000	+13000	+167000	-118000	+156000	+76000	+15000	-46000	-102000	-78000	-80000

CAL YR 1979 MAX 1748000 MIN 1416000 † -133000
WTR YR 1980 MAX 1745000 MIN 1416000 † -31000

* Prior to Oct. 1, 1972, contents were given at 2400.
† Change in contents, in acre-feet (from 0800 first of month).
NOTE.--Contents at 0800 Oct. 1, 1980, 1,428,000 acre-feet.

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ
(National stream-quality accounting network station)

LOCATION.--Lat 33°33'10", long 111°34'33", in NW¼NW¼ sec.6, T.2 N., R.8 E. (unsurveyed), Maricopa County, Hydrologic Unit 15060106, on left bank 3.5 mi (5.6 km) downstream from Stewart Mountain Dam and 6 mi (10 km) upstream from Verde River.

DRAINAGE AREA.--6,232 mi^2 (16,141 km^2) of which 21 mi^2 (54 km^2) is below Stewart Mountain Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1930 to current year. Monthly discharge only for some periods, published in WSP 1313. Published as "at Stewart Mountain Dam" 1934-41.

REVISED RECORDS.--WSP 1343: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,370 ft (418 m), from topographic map. Prior to Sept. 27, 1934, at site 3.2 mi (5.1 km) upstream at different datum. Sept. 27, 1934, to Jan. 20, 1950, at site 2.8 mi (4.5 km) upstream at datum 1,396.33 ft (425.601 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by four reservoirs above station. (See elsewhere in this report.) Entire flow (except during infrequent periods of extreme flooding) is diverted at Granite Reef Dam, 10 mi (16 km) downstream, for irrigation in Salt River Valley and for municipal use by the city of Phoenix.

AVERAGE DISCHARGE.--50 years, 928 ft^3/s (26.28 m^3/s), 672,300 acre-ft/yr (829 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,200 ft^3/s (2,130 m^3/s) Feb. 15, 1980, gage height, 25.0 ft (7.62 m), from high-water mark inside gage well, from rating curve extended above 10,000 ft^3/s (286 m^3/s) defined by known release rates from Stewart Mountain Dam and recorded gage heights; maximum daily discharge, 64,000 ft^3/s (1,810 m^3/s) Feb. 16, 1980; no flow at times in recent years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 64,000 ft^3/s (1,810 m^3/s) Feb. 16; no flow Nov. 26 to Jan. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1550	30	.00	.00	5490	8600	3340	4000	2290	2260	2200	2190
2	1530	21	.00	.00	6020	8520	3340	3860	2260	2810	2200	2210
3	1530	19	.00	.00	5870	7300	3380	3700	2260	2860	2200	2240
4	1530	16	.00	.00	5750	6420	3390	3720	2250	2820	2200	2210
5	1530	15	.00	.00	5750	2370	4160	2950	2210	2840	2200	2150
6	1530	15	.00	.00	5720	51	4130	2040	2230	2860	2200	2180
7	1430	13	.00	.00	5740	268	4180	1900	2220	2850	2230	2220
8	1370	6.4	.00	.00	5640	305	3900	1930	2230	2850	2230	2430
9	1460	4.4	.00	.00	2930	64	3180	2260	2250	2850	2260	2480
10	1490	3.9	.00	.00	1180	22	3150	2830	2260	2830	2200	2620
11	1510	3.4	.00	.00	1230	21	3130	2860	2260	2840	2120	2500
12	1290	3.0	.00	.00	1320	15	3090	2870	2250	2790	2270	2480
13	717	2.2	.00	.00	1160	11	3080	2880	2210	2800	2270	2340
14	724	2.2	.00	.00	4060	9.7	3050	2810	2200	2820	2170	2250
15	721	2.2	.00	.00	38200	8.6	3020	2640	2260	2830	2150	2250
16	731	5.6	.00	.00	64000	7.7	2990	2580	2060	2770	2170	2250
17	728	8.4	.00	.00	57200	6.7	2980	2330	54	2810	2230	2250
18	714	7.6	.00	.00	43200	5.9	3020	2330	1500	2780	2190	2250
19	744	5.3	.00	.00	33300	7.7	3030	2400	2200	2790	2170	2250
20	687	6.7	.00	.00	32800	6.7	3010	2670	2200	2780	2220	2250
21	619	4.1	.00	.00	43600	5.9	3020	2880	2210	2460	2220	2250
22	560	3.6	.00	.00	46500	5.5	3040	2930	2220	1990	2240	2250
23	594	2.7	.00	.00	39600	5.9	3070	2960	2220	2200	2230	2250
24	616	2.1	.00	.00	29200	6.3	3070	2990	2170	2240	2220	2250
25	618	1.5	.00	.00	21400	5.9	2750	2910	2170	2240	2220	2250
26	645	.00	.00	.00	13300	5.9	2380	2860	2220	2180	2210	2250
27	611	.00	.00	.00	10500	1930	2410	2860	2230	2210	2200	2250
28	595	.00	.00	.00	10500	3360	2440	2870	2210	2200	2210	2250
29	575	.00	.00	.00	8410	3330	2340	2870	2210	2250	2200	2250
30	485	.00	.00	436	---	3340	2460	2800	2220	2250	2210	2250
31	397	---	.00	2950	---	3350	---	2390	---	2230	2220	---
TOTAL	29831	204.30	.00	3386.00	549570	49365.4	93530	86880	63734	80290	68460	68500
MEAN	962	6.81	.000	109	18950	1592	3118	2803	2124	2590	2208	2283
MAX	1550	30	.00	2950	64000	8600	4180	4000	2290	2860	2270	2620
MIN	397	.00	.00	.00	1160	5.5	2340	1900	54	1990	2120	2150
AC-FT	59170	405	.00	6720	1090000	97920	185500	172300	126400	159300	135800	135900

CAL YR 1979 TOTAL 1069927.80 MEAN 2931 MAX 54000 MIN .00 AC-FT 2122000
WTR YR 1980 TOTAL 1093750.70 MEAN 2988 MAX 64000 MIN .00 AC-FT 2169000

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ--Continued

WATER-QUALITY RECORDS

LOCATION.--Water samples collected at Stewart Mountain Dam, 3.5 mi (5.6 km) upstream from gaging station.

PERIOD OF RECORD.--December 1950 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to current year.
WATER TEMPERATURES: December 1950 to current year.

REMARKS.--No inflow between sampling point and gaging station except during infrequent periods of heavy local rains. Unpublished daily specific conductance measurements for period December 1950 to September 1964, available from district office in Tucson, Ariz.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 2,490 micromhos Aug. 20, 1951; minimum observed, 470 micromhos Feb. 10, 1980.
WATER TEMPERATURES: Maximum observed, 29.0°C Aug. 24, 26, 27, 1951, Sept. 11, 12, 1969; minimum, 9.0°C Feb. 1, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 820 micromhos Feb. 9; minimum observed, 470 micromhos Feb. 10.
WATER TEMPERATURES: Maximum observed, 24.0°C July 16; minimum observed, 13.0°C for many days during February, March, April.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
31...	1330	305	545	8.7	19.5	7.2	7.3	4	5	140	45
NOV											
28...	1330	7.2	553	7.8	16.0	6.5	7.8	1	K9	160	60
FEB											
01...	1300	5330	550	7.7	13.0	1.9	9.8	<1	K3	170	68
21...	1245	46000	597	8.1	12.0	54	11.0	K37	231	130	46
APR											
16...	1330	2960	495	7.4	13.5	18	9.4	<1	<1	130	46
MAY											
07...	1345	1900	488	7.9	14.5	8.4	9.3	K1	K1	140	48
JUN											
03...	1500	2290	491	8.0	16.0	10	8.3	K2	--	130	45
JUL											
09...	1300	2730	505	7.2	19.0	11	8.5	K2	840	140	48
AUG											
26...	1245	2210	512	8.6	21.5	9.6	5.4	K2	K3	140	50
SEP											
09...	1330	2520	509	8.5	21.0	8.8	7.6	K2	7	140	51
23...	0815	2250	514	8.3	21.0	14	4.2	4	5	140	49

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT											
31...	41	9.4	46	1.7	3.0	96	59	69	.3	14	311
NOV											
28...	46	11	55	1.9	3.2	100	66	69	.3	16	326
FEB											
01...	49	11	48	1.6	2.8	100	57	73	.3	15	330
21...	37	9.4	60	2.3	2.8	85	50	97	.3	15	345
APR											
16...	38	8.7	46	1.8	2.7	85	50	66	.3	14	287
MAY											
07...	40	9.2	46	1.7	2.7	90	50	62	.3	15	288
JUN											
03...	38	8.9	44	1.7	2.5	87	52	64	.3	13	287
JUL											
09...	42	9.1	49	1.8	2.9	94	51	67	.2	14	304
AUG											
26...	41	9.2	43	1.6	2.6	90	54	70	.3	14	304
SEP											
09...	41	9.3	49	1.8	3.0	90	51	71	.4	14	334
23...	41	9.8	50	1.8	2.5	94	54	70	.4	14	318

K Based on non-ideal colony count.
< Actual value is known to be less than value shown.

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
OCT											
31...	300	.42	.05	.050	.050	.06	.61	.45	.66	.16	.50
NOV											
28...	327	.44	.09	.050	.070	.06	.43	.50	.48	.00	.57
FEB											
01...	317	.45	.08	.030	.020	.04	.05	.00	.08	.08	.00
21...	323	.47	.13	.070	.010	.08	.11	.19	.18	.00	.20
APR											
16...	277	.39	.09	.040	.040	.05	.57	.39	.61	.18	.43
MAY											
07...	280	.39	.06	.060	.040	.07	.29	.36	.35	.00	.40
JUN											
03...	275	.39	.02	.030	.040	.04	.28	.27	.31	.00	.31
JUL											
09...	292	.41	.00	.040	.030	.05	.96	1.1	1.0	.00	1.1
AUG											
26...	288	.41	.00	.000	.000	.00	1.4	.49	1.4	.91	.49
SEP											
09...	293	.45	.00	.010	.000	.01	.64	.46	.65	.19	.46
23...	299	.43	.07	.100	.060	.12	2.8	.25	2.9	2.6	.31

DATE	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DISSOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT											
31...	.79	.55	3.5	.040	.12	.010	--	--	--	--	--
NOV											
28...	.61	.66	2.7	.020	.06	.010	2	2	200	60	0
FEB											
01...	.16	.08	.71	.010	.03	.000	--	--	--	--	--
21...	.31	.33	1.4	.090	.28	.010	4	3	300	60	0
APR											
16...	.69	.52	3.1	.060	.18	.020	--	--	--	--	--
MAY											
07...	.41	.46	1.8	.040	.12	.020	--	--	--	--	--
JUN											
03...	.33	.33	1.5	.040	.12	.060	3	2	100	50	0
JUL											
09...	1.0	1.1	4.4	.090	.28	.000	--	--	--	--	--
AUG											
26...	1.4	.49	6.2	.030	.09	.020	--	--	--	--	--
SEP											
09...	.65	.46	2.9	.050	.15	.010	4	3	0	60	0
23...	3.0	.38	13	.090	.28	.050	--	--	--	--	--

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)
OCT											
31...	--	--	--	--	--	--	--	--	--	--	--
NOV											
28...	<1	0	0	0	<3	0	0	340	<10	6	2
FEB											
01...	--	--	--	--	--	--	--	--	--	--	--
21...	<1	0	0	2	<3	11	1	2100	<10	2	9
APR											
16...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
03...	<1	0	0	0	<3	11	7	400	<10	1	0
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	<1	0	0	0	<3	5	5	490	<10	3	3
23...	--	--	--	--	--	--	--	--	--	--	--

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT											
31...	--	--	--	--	--	--	--	--	--	--	--
NOV											
28...	60	10	.4	+12	2	0	0	0	1	0	10
FEB											
01...	--	--	--	--	--	--	--	--	--	--	--
21...	30	2	.1	.0	7	1	0	0	0	0	20
APR											
16...	--	--	--	--	--	--	--	--	0	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
03...	20	4	.0	.0	5	2	0	0	0	0	40
JUL											
09...	--	--	--	--	--	--	--	--	0	--	--
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	60	10	.0	.0	6	0	0	0	0	0	30
23...	--	--	--	--	--	--	--	--	0	--	--

+ Value verified.

DATE	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	LENGTH OF EXPO-SURE (DAYS)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)
OCT										
31...	--	5.1	--	--	--	--	--	--	--	--
NOV										
28...	<3	--	16	--	--	--	--	--	--	--
FEB										
01...	--	5.0	--	--	--	--	--	--	--	--
21...	7	--	5.4	.6	--	--	--	--	--	--
APR										
16...	--	5.8	--	--	--	--	--	--	--	--
MAY										
07...	--	4.9	--	--	21	3.07	3.15	1.83	43.6	.000
JUN										
03...	<3	--	6.7	.3	--	--	--	--	--	--
JUL										
09...	--	5.5	--	--	--	--	--	--	--	--
AUG										
26...	--	4.7	--	--	--	--	--	--	--	--
SEP										
09...	5	--	6.6	.4	--	--	--	--	--	--
23...	--	4.2	--	--	14	3.54	4.33	328	2.41	.500

< Actual value is known to be less than value shown.

09498500 SALT RIVER NEAR ROOSEVELT, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				570	540	500	540	500	500	510	520
2	---				560	530	500	560	500	500	510	520
3	---				550	530	490	570	510	500	510	510
4	---				500	---	---	560	510	---	510	515
5	490				520	---	490	520	510	510	510	515
6	490				---	---	490	540	510	505	510	510
7	490				---	---	490	570	510	510	510	520
8	490				---	---	490	540	---	510	510	510
9	490				820	---	---	---	---	510	510	500
10	490				470	---	---	570	510	510	500	500
11	490				530	---	490	520	505	510	505	510
12	490				550	---	485	570	510	510	510	510
13	490				545	---	485	560	510	510	510	515
14	490				550	---	490	570	510	520	500	510
15	490				540	---	490	560	510	510	510	510
16	485				650	---	485	560	---	505	510	510
17	485				680	---	490	540	---	500	510	520
18	490				680	---	490	560	---	510	510	520
19	490				560	---	485	560	510	510	510	520
20	490				580	---	480	560	500	510	510	510
21	490				610	---	485	570	510	510	510	510
22	490				620	---	485	560	---	510	510	510
23	490				580	---	475	570	510	510	510	510
24	490				580	---	485	520	510	510	510	515
25	490				580	---	480	580	510	510	510	520
26	495				610	---	480	520	510	510	510	515
27	490				620	---	480	560	515	510	515	520
28	495				570	530	480	570	515	510	520	---
29	495				590	520	480	650	---	510	515	---
30	500				---	525	480	570	515	505	515	---
31	---				---	520	---	570	---	505	515	---
MEAN	491				585	528	486	560	509	508	510	513
MAX	500				820	540	500	650	515	520	520	520
MIN	485				470	520	475	520	500	500	500	500

WTR YR 1980 MEAN 521 MAX 820 MIN 470

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
UNCF-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---				17.0	13.0	13.0	15.0	16.0	20.0	22.0	22.0
2	---				13.0	13.0	13.0	15.0	16.0	20.0	22.0	22.0
3	---				14.0	13.0	13.0	16.0	16.0	20.0	22.0	22.0
4	---				13.0	---	---	16.0	16.0	---	22.0	23.0
5	21.0				13.0	---	15.0	16.0	16.0	20.0	22.0	22.0
6	20.0				---	---	15.0	16.0	16.0	20.0	23.0	22.0
7	20.0				---	---	15.0	16.0	17.0	21.0	22.0	22.0
8	20.0				---	---	16.0	16.0	---	20.0	22.0	22.0
9	22.0				15.0	---	---	---	---	20.0	23.0	23.0
10	22.0				14.0	---	---	15.0	17.0	21.0	23.0	22.0
11	22.0				15.0	---	15.0	15.0	17.0	21.0	23.0	22.0
12	21.0				14.0	---	14.0	15.0	17.0	22.0	23.0	22.0
13	20.0				14.0	---	14.0	16.0	17.0	21.0	23.0	22.0
14	21.0				15.0	---	14.0	15.0	18.0	21.0	23.0	22.0
15	21.0				15.0	---	14.0	15.0	18.0	20.0	23.0	22.0
16	22.0				13.0	---	13.0	15.0	---	24.0	22.0	21.0
17	22.0				13.0	---	14.0	15.0	---	22.0	22.0	22.0
18	22.0				13.0	---	15.0	16.0	---	22.0	22.0	22.0
19	22.0				13.0	---	15.0	15.0	19.0	21.0	22.0	22.0
20	20.0				13.0	---	16.0	15.0	17.0	21.0	22.0	22.0
21	20.0				13.0	---	16.0	15.0	19.0	21.0	22.0	22.0
22	20.0				13.0	---	17.0	15.0	---	22.0	22.0	22.0
23	20.0				13.0	---	17.0	15.0	19.0	21.0	22.0	22.0
24	20.0				13.0	---	16.0	16.0	20.0	21.0	22.0	22.0
25	20.0				13.0	---	17.0	16.0	19.0	22.0	22.0	22.0
26	20.0				13.0	---	15.0	16.0	19.0	21.0	22.0	23.0
27	20.0				14.0	---	15.0	16.0	20.0	21.0	22.0	22.0
28	20.0				14.0	16.0	15.0	16.0	17.0	22.0	22.0	---
29	20.0				14.0	14.0	15.0	16.0	---	22.0	22.0	---
30	18.0				---	13.0	15.0	16.0	20.0	22.0	22.0	---
31	---				---	13.0	---	16.0	---	22.0	22.0	---
MEAN	20.5				13.5	13.5	15.0	15.5	17.5	21.0	22.5	22.0
MAX	22.0				17.0	16.0	17.0	16.0	20.0	24.0	23.0	23.0
MIN	18.0				13.0	13.0	13.0	15.0	16.0	20.0	22.0	21.0

WTR YR 1980 MEAN 18.5 MAX 24.0 MIN 13.0

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YLAR OCTOBER 1979 TO SEPTIMBER 1980

PHYTOPLANKTON

DATE	NOV 28,79		MAR 6,80		APR 16,80		JUL 9,80	
TIME	1530		1500		1530		1500	
TOTAL CELLS/ML	7900		560		500		210	
DIVERSITY: DIVISION	1.0		1.1		1.0		1.2	
.CLASS	1.0		1.1		1.0		1.2	
..ORDER	1.4		1.1		1.4		1.6	
...FAMILY	1.5		1.3		2.3		1.8	
....GENUS	1.8		1.3		2.3		1.8	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	26	5	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	200	2	--	-	--	-	--	-
....CHLORELLA	130	2	--	-	--	-	13	6
....KIRCHNERIELLA	400	5	--	-	--	-	--	-
....SELENASTRUM	--	-	13	4	13	3	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....CRUCIGENIA	--	-	--	-	--	-	--	-
....SCENEDESMUS	200	2	52	14	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	130	2	--	-	52	10	13	6
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	5500#	69	--	-	170#	33	120#	56
....SKELETONEMA	130	2	--	-	--	-	--	-
....THALASSIOSIRA	66	1	--	-	--	-	--	-
..PENNALES								
...FRAGILARIACEAE								
....SYNEDRA	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	13	3	--	-
...NAVICULACEAE								
....NAVICULA	--	-	--	-	26	5	--	-
...NITZSCHIACEAE								
....NITZSCHIA	530	7	2600#	71	190#	36	26	13
.CHRYSOPHYCEAE								
..CHRYSOMONADALES								
...OCHROMONADACEAE								
....OCHROMONAS	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	66	1	39	11	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	--	-	39#	19
..NOSTOCALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
....ANABAENOPSIS	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	--	-	--	-
....SCHIZOTHRIX	530	7	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....TRACHELOMONAS	--	-	--	-	26	5	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	AUG 28,80		SEP 8,80		SEP 25,80	
TIME	1245		1350		0815	
TOTAL CELLS/ML	710		59		270	
DIVERSITY: DIVISION	1.6		0.9		1.1	
.CLASS	1.6		1.6		1.1	
..ORDER	1.9		1.6		1.1	
...FAMILY	2.6		1.6		1.0	
....GENUS	2.9		1.6		1.0	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	52#	19
....CHLORELLA	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-
....TETRAEDRON	--	-	13#	53	--	-
....TREUBARIA	13	2	--	-	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	130#	18	--	-	--	-
....SCENEDESMUS	78	11	--	-	26	10
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	13	2	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...CONCINNODISCACEAE						
....CYCLOTELLA	13	2	--	-	--	-
....SKELETONEMA	--	-	--	-	--	-
....THALASSIOSIRA	--	-	--	-	--	-
..PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	26	4	13#	53	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	13	2	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	13	5
...NITZSCHIACEAE						
....NITZSCHIA	13	2	--	-	--	-
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	13#	53	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	39	5	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	26	4	--	-	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	120#	16	--	-	--	-
....ANABAENOPSIS	--	-	--	-	180#	67
...OSCILLATORIACEAE						
....OSCILLATORIA	230#	32	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

09502800 WILLIAMSON VALLEY WASH NEAR PAULDEN, AZ

LOCATION.--Lat 34°52'00", long 112°36'45", in SE¼SE¼ sec.7, T.17 N., R.3 W., Yavapai County, Hydrologic Unit 15060201, on left bank 3.6 mi (5.8 km) north of Simmons and 8.5 mi (13.7 km) west of Paulden.

DRAINAGE AREA.--255 mi^2 (660 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,455 ft (1,357.9 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1970, at datum 1.00 ft (0.305 m) higher. Datum of 4,447 ft (1,355.4 m) published in WRD Ariz. 1971-76 was in error.

REMARKS.--Records good.

AVERAGE DISCHARGE.--15 years, 15.5 ft^3/s (0.439 m^3/s), 11,230 acre-ft/yr (13.8 hm^3/yr); median of yearly mean discharges, 7.5 ft^3/s (0.21 m^3/s), 5,400 acre-ft/yr (6.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft^3/s (286 m^3/s) Feb. 20, 1980, gage height, 8.93 ft (2.722 m) from rating curve extended above 2,200 ft^3/s (62.3 m^3/s) on basis of slope-area measurements at gage heights 6.38 ft (1.945 m), 8.22 ft (2.505 m) and 8.93 ft (2.722 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 2,200 ft^3/s or 62.3 m^3/s as explained above) and peak discharges above base of 100 ft^3/s (2.83 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1800	159	4.50	3.91	1.192	Feb. 15	0245	8,100	229	8.40	2.560
Jan. 30	0815	7,520	213	8.23	2.508	Feb. 20	0015	*10,100	286	8.93	2.722

Minimum daily, 0.07 (.002 m^3/s) Oct. 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.18	.63	1.4	65	64	60	7.9	3.3	1.3	.50	1.3
2	.22	.21	.56	1.5	36	63	62	7.1	3.2	1.8	3.2	1.4
3	.18	.21	.56	1.5	26	66	60	6.0	2.8	1.2	1.5	1.4
4	.18	.21	.56	1.5	21	85	56	5.4	2.8	.97	.95	1.5
5	.15	.25	.56	1.6	18	68	50	5.2	2.7	.81	.70	1.6
6	.15	.25	.56	1.6	16	65	45	4.8	2.7	.92	.56	1.6
7	.15	.34	.49	1.8	15	82	40	4.0	2.8	1.9	.50	1.6
8	.15	.38	.56	1.8	13	68	37	3.5	2.8	1.9	.40	1.3
9	.15	.34	.70	2.1	10	59	35	3.4	2.5	1.3	.40	1.3
10	.13	.34	.95	3.2	8.2	40	32	3.0	2.4	1.2	.30	1.8
11	.11	.34	1.0	40	5.2	78	30	3.1	2.2	1.3	.30	1.6
12	.15	.38	.95	22	2.4	78	28	2.7	2.1	1.1	.30	1.5
13	.15	.38	1.0	5.8	1.5	63	26	2.5	2.1	1.6	3.6	1.4
14	.18	.44	.95	3.8	2390	57	24	2.8	2.1	1.2	1.5	1.3
15	.18	.49	1.0	6.1	3700	45	22	3.7	2.2	.96	.95	1.4
16	.18	.52	1.2	4.1	712	33	20	4.1	2.0	.89	.90	1.3
17	.15	.53	1.2	3.2	763	23	19	3.8	2.0	.73	.90	1.2
18	.07	.53	1.2	3.2	696	22	18	3.2	1.7	.70	.80	1.1
19	.07	.52	1.2	3.6	1360	22	16	2.8	1.6	.60	.80	1.0
20	.21	.52	.95	3.6	2800	22	15	2.7	1.6	.60	.70	1.0
21	.44	.56	1.0	3.8	964	22	13	2.6	1.6	.56	.70	1.1
22	.18	.70	.95	3.8	575	22	12	2.4	1.5	.63	.77	1.1
23	.18	.86	.95	3.4	196	23	12	2.5	1.4	.63	.81	1.3
24	.18	.78	.95	3.2	115	23	11	2.6	1.3	.63	3.1	1.3
25	.15	.78	1.0	3.4	87	23	9.9	3.0	1.4	.78	2.4	1.4
26	.13	.78	1.3	3.4	78	23	8.8	3.1	1.4	.70	1.7	1.4
27	.13	.70	1.3	3.4	73	22	8.3	3.1	1.4	.60	1.3	1.4
28	.13	.70	1.2	3.8	70	22	7.7	3.1	1.2	.60	1.2	1.3
29	.18	.70	1.0	1110	66	33	7.9	3.2	1.2	.50	1.1	1.2
30	.15	.63	1.2	3960	---	66	8.1	3.2	1.1	.40	1.1	1.2
31	.18	---	1.3	208	---	62	---	3.2	---	.50	1.1	---
TOTAL	5.16	14.55	28.93	5419.6	14882.3	1444	793.7	113.7	61.1	29.51	35.04	40.3
MEAN	.17	.49	.93	175	513	46.6	26.5	3.67	2.04	.95	1.13	1.34
MAX	.44	.86	1.3	3960	3700	85	62	7.9	3.3	1.9	3.6	1.8
MIN	.07	.18	.49	1.4	1.5	22	7.7	2.4	1.1	.40	.30	1.0
AC-FT	10	29	57	10750	29520	2860	1570	226	121	59	70	80

CAL YR 1979 TOTAL 7304.63 MEAN 20.0 MAX 898 MIN .00 AC-FT 14490
WTR YR 1980 TOTAL 22867.89 MEAN 62.5 MAX 3960 MIN .07 AC-FT 45360

09502800 WILLIAMSON VALLEY WASH NEAR PAULDEN, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
FEB 16...	1400	667	152	7.0	54	0	15	4.1	10	.6	2.4

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
FEB 16...	66	8.3	7.4	.3	21	117	109	.16	.03	60	380

09503700 VERDE RIVER NEAR PAULDEN, AZ

LOCATION.--Lat 34°53'40", long 112°20'32", in SW¼SW¼ sec.35, T.18 N., R.1 W., Yavapai County, Hydrologic Unit 15060202, in Prescott National Forest, on right bank 0.3 mi (0.5 km) upstream from Verde Valley Ranch, 7 mi (11 km) east of Paulden, 8 mi (13 km) upstream from Hell Canyon, 8 mi (13 km) downstream from Granite Creek, and 10 mi (16 km) downstream from Sullivan Lake.

DRAINAGE AREA.--2,530 mi^2 (6,550 km^2), approximately (includes 373 mi^2 or 966 km^2 in Aubrey Valley Playa, a closed basin).

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,117 ft (1,255 m), from topographic map.

REMARKS.--Records good. Diversions and storage above station for irrigation and municipal use.

AVERAGE DISCHARGE.--17 years, 44.4 ft^3/s (1.257 m^3/s), 32,170 acre-ft/yr (39.7 hm^3/yr); median of yearly mean discharges, 30 ft^3/s (0.85 m^3/s), 21,700 acre-ft/yr (27 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft^3/s (445 m^3/s) Feb. 20, 1980, gage height, 12.72 ft (3.877 m) from rating curve extended above 7,600 ft^3/s (215 m^3/s) on basis of slope-conveyance and step-backwater analysis; minimum daily, 15 ft^3/s (0.42 m^3/s) May 13-23, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 7,600 ft^3/s or 215 m^3/s on basis of slope-conveyance and step-backwater analysis) and peak discharges above base of 300 ft^3/s (8.50 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	1515	8,870	251	10.24	3.121
Feb. 15	0830	10,200	289	10.79	3.289
Feb. 20	0645	*15,700	445	12.72	3.877

Minimum daily, 23 ft^3/s (0.65 m^3/s) on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	24	25	26	395	64	25	32	26	27	26	26
2	23	25	25	26	193	51	25	28	26	26	27	26
3	24	25	25	26	108	46	24	28	27	25	26	26
4	24	25	25	26	73	104	24	28	26	25	26	26
5	23	25	25	26	56	113	24	27	26	25	25	26
6	23	25	25	26	46	67	24	28	26	25	25	26
7	23	25	25	26	40	93	24	28	26	26	25	26
8	23	25	25	26	37	103	24	27	26	26	25	26
9	23	25	25	27	35	66	24	27	26	26	25	26
10	23	25	25	27	35	53	24	27	26	26	25	27
11	23	25	25	28	34	53	23	27	25	26	25	26
12	23	25	25	76	34	108	24	26	25	26	26	26
13	23	25	25	57	34	79	24	27	25	28	26	25
14	23	25	25	32	558	57	24	26	25	26	26	25
15	23	25	25	28	7450	44	24	27	26	26	26	25
16	23	25	25	25	3420	34	24	26	26	26	26	25
17	23	25	25	25	1970	26	24	26	25	26	26	25
18	23	25	25	25	1500	24	24	26	25	26	26	25
19	23	25	25	27	1850	24	24	26	25	26	26	25
20	24	25	25	25	7400	24	25	26	26	26	26	25
21	24	25	25	25	4430	23	25	26	26	26	26	25
22	23	25	25	25	4260	24	26	26	26	26	26	24
23	24	25	25	24	1890	24	26	26	26	26	27	25
24	24	25	25	24	881	23	26	26	26	26	30	25
25	24	25	26	25	541	23	26	26	26	28	27	25
26	24	25	27	24	336	24	26	26	26	33	26	25
27	24	25	26	25	201	23	26	26	26	27	26	24
28	24	25	26	25	128	24	26	26	26	27	26	24
29	24	25	26	28	90	23	32	26	26	26	26	23
30	24	25	26	5030	---	24	38	26	26	26	26	23
31	24	---	26	1320	---	24	---	26	---	26	26	---
TOTAL	726	749	783	7185	38025	1492	759	829	774	816	806	756
MEAN	23.4	25.0	25.3	232	1311	48.1	25.3	26.7	25.8	26.3	26.0	25.2
MAX	24	25	27	5030	7450	113	38	32	27	33	30	27
MIN	23	24	25	24	34	23	23	26	25	25	25	23
AC-FT	1440	1490	1550	14250	75420	2960	1510	1640	1540	1620	1600	1500

CAL YR 1979	TOTAL	20081	MEAN	55.0	MAX	1570	MIN 23	AC-FT 39830
WTR YR 1980	TOTAL	53700	MEAN	147	MAX	7450	MIN 23	AC-FT 106500

09503700 VERDE RIVER NEAR PAULDEN, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
FEB 16...	1800	2470	145	7.0	61	0	17	4.5	6.4	.4	2.1

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
FEB 16...	76	5.4	3.8	.2	18	100	105	.14	.30	50	30

09504000 VERDE RIVER NEAR CLARKDALE, AZ

LOCATION (REVISED).--Lat 34°51'08", long 112°03'55", in NW¼SE¼ sec.17, T.17 N., R.3 E., Yavapai County, Hydrologic Unit 15060202, in Prescott National Forest, on left bank 1.7 mi (2.7 km) downstream from Sycamore Creek and 5.6 mi (9.0 km) north of Clarkdale.

DRAINAGE AREA.--3,520 mi^2 (9,120 km^2), approximately (includes 373 mi^2 or 966 km^2 in Aubrey Valley Playa, a closed basin).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1915 to October 1916, June 1917 to June 1921, April 1965 to current year.

REVISED RECORDS.--WSP 1213: 1917, 1920.

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (1,070 m), from bench mark at gage. June 1915 to June 1921 at site 2.5 mi (4.0 km) downstream at different datum.

REMARKS.--Records good except for periods of no gage-height record, which are poor.

AVERAGE DISCHARGE.--19 years (water years 1916, 1918-20, 1966-80), 209 ft^3/s (5.919 m^3/s), 151,400 acre-ft/yr (187 hm^3/yr); median of yearly mean discharges, 170 ft^3/s (4.81 m^3/s), 123,000 acre-ft/yr (150 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,600 ft^3/s (1,430 m^3/s) Feb. 21, 1920, gage height, 19.1 ft (5.82 m), site and datum then in use, from rating curve extended above 2,500 ft^3/s (71 m^3/s) on basis of float-area measurement at 35,000 ft^3/s (990 m^3/s); minimum daily, 55 ft^3/s (1.56 m^3/s) Aug. 31, Sept. 1, 1920.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 2,000 ft^3/s (56.6 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 12	1545	2,030	57.5	4.83	1.472
Jan. 30	1930	9,210	261	9.97	3.039
Feb. 15	0300	*30,100	852	17.92	5.462
Feb. 18	Unknown	a12,000	340	Unknown	---
Feb. 19	Unknown	22,000	623	b15.5	4.724
Feb. 21	2000	10,300	292	10.65	3.246

Minimum daily, 74 ft^3/s (2.10 m^3/s) Oct. 1-10, Aug. 31.
a Estimated by hydrographic analysis.
b From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	79	89	96	645	736	338	180	92	954	100	75
2	74	80	91	96	387	582	283	140	91	639	90	75
3	74	81	91	96	315	605	215	125	91	261	85	75
4	74	81	93	96	308	783	694	115	90	206	83	76
5	74	81	93	96	371	792	715	110	90	150	81	77
6	74	81	93	96	361	597	627	105	90	100	80	78
7	74	83	94	96	318	564	612	105	90	83	80	79
8	74	86	94	96	215	578	494	100	91	84	79	78
9	74	84	96	96	139	457	472	100	91	84	79	78
10	74	84	96	99	103	384	512	100	90	84	80	82
11	75	83	96	393	96	387	495	100	89	83	81	82
12	75	83	96	1500	94	965	323	100	87	83	79	80
13	75	83	96	1020	93	851	210	110	86	150	79	78
14	75	85	96	947	6410	597	200	100	86	94	78	79
15	75	85	96	960	21300	623	210	100	87	84	78	79
16	75	85	96	481	7450	559	230	100	87	83	77	79
17	75	85	96	273	5170	460	220	95	86	83	77	78
18	75	85	96	265	7650	372	205	95	86	82	77	78
19	77	85	96	335	10300	337	195	95	84	81	76	78
20	77	85	96	264	14700	377	185	92	84	80	76	78
21	82	87	96	210	7880	413	180	91	84	81	75	78
22	77	87	96	200	6410	418	160	89	84	82	75	78
23	77	87	96	166	3190	357	140	89	83	82	77	79
24	78	87	96	129	1850	544	130	89	83	82	103	80
25	78	87	96	115	1530	718	125	90	83	81	92	81
26	78	88	99	110	1110	639	130	90	84	80	83	81
27	78	89	97	108	1010	471	130	89	84	80	78	81
28	78	88	96	107	932	445	120	89	85	80	76	81
29	78	89	96	272	932	349	120	89	85	80	76	81
30	78	89	96	3410	---	284	150	89	85	79	75	79
31	79	---	96	2220	---	324	---	88	---	83	74	---
TOTAL	2355	2542	2950	14448	101067	16568	8820	3149	2608	4438	2499	2361
MEAN	76.0	84.7	95.2	466	3485	534	294	102	86.9	143	80.6	78.7
MAX	82	89	99	3410	21300	965	715	180	92	954	103	82
MIN	74	79	89	96	93	284	120	88	83	79	74	75
AC-FT	4670	5040	5850	28660	200500	32860	17490	6250	5170	8800	4960	4680

CAL YR 1979 TOTAL 92002 MEAN 252 MAX 4500 MIN 72 AC-FT 182500
WTR YR 1980 TOTAL 163805 MEAN 448 MAX 21300 MIN 74 AC-FT 324900

NOTE.--No gage-height record Feb. 18-20, Apr. 13 to May 20, July 5 to Aug. 20.

09504000 VERDE RIVER NEAR CLARKDALE, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1976 to September 1979, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 24...	1730	76	520	8.2	19.5	1.7	8.2	11	220	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 24...	49	24	25	.7	2.3	230	9.7	15	.2	20

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)
OCT 24...	238	284	.32	26	.08	.16	.24	1.1	.020	.06

DATE	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
OCT 24...	.01	.03	16	200	190	170	0	0	3	190

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)
OCT 24...	<10	2	20	7	.0	0	0	110	.00	7

< Actual value is known to be less than value shown.

09504420 OAK CREEK NEAR SEDONA, AZ

LOCATION.--Lat 35°53'13", long 111°43'49", SW¼NE¼ sec.4, T.17 N., R.6 E., Coconino County, Hydrologic Unit 15060202, in Coconino National Forest, 2.3 mi (3.7 km) upstream from Sedona, 26 mi (42 km) southwest of Flagstaff and 38.4 mi (61.8 km) upstream from mouth.

PERIOD OF RECORD.--October 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT												
22...	1500	38	288	8.4	13.5	2.0	8.5	7	58	150	0	33
NOV												
28...	1500	E30	325	8.4	9.5	1.0	10.2	--	K3	150	0	33
DEC												
12...	1030	38	335	8.4	7.0	.00	10.8	--	<1	160	0	34
JAN												
08...	1130	32	305	7.7	10.0	1.0	9.4	0	K6	150	0	33
FEB												
12...	1500	68	200	8.5	8.5	1.6	9.6	--	<1	110	4	26
MAR												
10...	1530	E240	140	8.0	7.0	3.7	11.1	13	K6	68	0	15
MAY												
12...	1400	88	240	8.4	14.0	6.9	--	13	--	120	1	27
JUN												
10...	0930	34	219	8.2	13.5	3.4	--	--	K7	150	0	33
JUL												
08...	1030	31	280	8.4	16.5	.70	8.5	11	63	150	0	33
AUG												
19...	1300	30	280	8.4	16.5	1.2	--	5	32	150	0	32
SEP												
30...	1200	33	305	8.3	15.0	.60	9.3	42	K6	140	0	31

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT												
22...	16	5.0	.2	1.1	150	3.8	4.1	.1	16	158	170	.21
NOV												
28...	17	4.7	.2	.9	160	.4	3.0	.1	16	187	171	.25
DEC												
12...	17	4.8	.2	.8	160	.0	2.9	.1	16	180	172	.24
JAN												
08...	17	4.8	.2	1.1	160	4.7	3.2	.1	15	178	175	.24
FEB												
12...	12	3.9	.2	.9	110	1.8	2.5	.0	14	134	128	.18
MAR												
10...	7.5	3.1	.2	.7	71	1.8	1.8	.1	13	97	86	E.13
MAY												
12...	13	3.6	.1	1.0	120	9.4	2.4	.1	14	130	143	.18
JUN												
10...	17	4.7	.2	1.0	160	.4	2.8	.0	15	196	170	.27
JUL												
08...	16	4.8	.2	1.0	150	1.0	3.0	.2	16	175	165	.24
AUG												
19...	16	4.8	.2	.9	150	5.5	3.2	.1	15	171	168	.23
SEP												
30...	16	4.7	.2	1.0	150	1.4	3.1	.1	15	157	163	.21

K Based on non-ideal colony count.
< Actual value is known to be less than value shown.
E Estimated.

09504420 OAK CREEK NEAR SEDONA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
OCT 22...	8	.05	.27	.32	1.4	.010	.03	.01	.03	5	300	20
NOV 28...	--	.03	.21	.27	1.2	.000	.00	.00	.00	7	400	40
DEC 12...	--	.07	.28	.36	1.6	.010	.03	.00	.00	6	400	30
JAN 08...	1	.06	.68	.76	3.4	.010	.03	--	--	6	400	40
FEB 12...	--	.06	2.3	2.4	11	.020	.06	.01	.03	4	300	50
MAR 10...	0	.08	.39	.45	2.0	.080	.25	.07	.21	2	200	30
MAY 12...	14	.06	.45	.51	2.3	.060	.18	.01	.03	4	200	10
JUN 10...	10	.05	--	--	--	.120	.37	.01	.03	6	300	30
JUL 08...	16	.04	.45	.53	2.3	.010	.03	.01	.03	7	200	40
AUG 19...	83	.00	.79	.79	3.5	.020	.06	.00	.00	6	100	40
SEP 30...	7	.00	.19	.19	.84	.100	.31	.00	.00	6	200	20

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)
OCT 22...	10	0	0	0	30	10	3	4	3	.1	0	0
NOV 28...	10	0	16	1	0	10	5	10	4	.7	0	0
DEC 12...	10	0	16	2	20	10	4	10	3	.1	0	0
JAN 08...	20	0	0	10	60	20	3	10	4	.1	0	0
FEB 12...	40	0	0	3	150	40	5	10	3	.0	0	0
MAR 10...	20	0	0	6	270	50	2	10	3	.0	0	0
MAY 12...	20	1	0	32	580	<10	6	20	3	.0	0	0
JUN 10...	20	0	0	6	70	<10	4	10	<3	.1	0	0
JUL 08...	6	0	0	0	60	10	0	10	3	.2	0	0
AUG 19...	20	0	10	9	90	20	4	10	5	.0	0	0
SEP 30...	50	0	0	4	120	10	4	10	2	.0	0	0

< Actual value is known to be less than value shown.

DATE	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 22...	30	10	.00	1	--	--	--	--	--	1	.10
NOV 28...	20	3.1	.00	0	--	--	--	--	--	--	--
DEC 12...	20	2.2	.00	1	--	--	--	--	--	1	.10
JAN 08...	20	3.9	.00	5	--	--	--	--	--	--	--
FEB 12...	30	4.0	.00	+12	--	--	--	--	--	16	2.9
MAR 10...	30	5.5	.00	+6	--	--	--	--	--	--	--
MAY 12...	80	4.3	.00	+8	--	--	--	--	--	87	21
JUN 10...	30	2.4	.00	+21	5.35	3.15	5946	.370	.300	64	5.9
JUL 08...	10	2.0	.00	1	--	--	--	--	--	39	3.3
AUG 19...	60	.7	.00	0	--	--	--	--	--	23	1.9
SEP 30...	10	3.9	.00	2	--	--	--	--	--	28	2.5

+ Value verified.

09504420 OAK CREEK NEAR SEDONA, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JUN 10,80		JUL 8,80		JUL 8,80		AUG 19,80		AUG 19,80		AUG 19,80	
TIME	0930		1030		1035		1200		1205		1210	
TOTAL CELLS/ML	270		500		190		620		150		430	
DIVERSITY: DIVISION	0.0		1.0		0.9		0.0		0.4		1.0	
.CLASS	0.0		1.0		0.9		0.0		0.4		1.0	
..ORDER	0.3		1.6		1.5		0.5		1.0		1.4	
...FAMILY	2.3		2.2		1.7		2.0		2.5		1.6	
....GENUS	2.4		2.6		1.7		2.3		2.5		1.6	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...SCENEDESMACEAE												
....SCENEDESMUS	--	-	--	-	52#	29	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	14	5	57#	19	90#	50	26	12	26#	17	64#	15
....MELOSIRA	--	-	29	10	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	43#	16	29	10	--	-	64#	29	13	8	--	-
....COCCONEIS	14	5	14	5	--	-	13	6	--	-	13	3
...CYMBELLACEAE												
....CYMBELLA	100#	37	29	10	--	-	26	12	--	-	--	-
...DIATOMACEAE												
....DIPLONEIS	--	-	--	-	13	7	--	-	--	-	--	-
...FRAGILARIACEAE												
....SYNEDRA	--	-	--	-	--	-	--	-	13	8	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	14	5	--	-	--	-	--	-	13	8	--	-
...NAVICULACEAE												
....NAVICULA	56#	21	14	5	26	14	77#	35	65#	42	120#	27
...NITZSCHIACEAE												
....NITZSCHIA	29	11	14	5	--	-	13	6	13	8	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	13	8	--	-
..HORMOGONALES												
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	110#	38	--	-	--	-	--	-	230#	55

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09504440 OAK CREEK AT RED ROCK CROSSING NEAR SEDONA, AZ

LOCATION.--Lat 34°49'28", long 111°48'20", NE¼SW¼ sec.26, T.17 N., R.5 E., Yavapai County, Hydrologic Unit 15060202 in Coconino National Forest, at Red Rock (Baldwins) crossing, 5.0 mi (8.0 km) downstream from Sedona and 31 mi (50 km) upstream from mouth.

DRAINAGE AREA.--252 mi^2 or 650 km^2.

PERIOD OF RECORD.--October 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT												
24...	1230	22	320	8.0	16.5	.60	9.7	0	K23	160	4	36
NOV												
27...	1300	20	360	8.2	10.0	3.0	9.9	--	K1	160	0	36
DEC												
11...	1245	30	359	8.5	8.5	1.0	10.0	--	K12	160	0	36
JAN												
08...	1530	31	312	7.9	8.0	.60	10.4	0	K5	160	0	34
FEB												
13...	1700	56	238	8.4	7.0	1.0	--	--	K2	120	3	28
MAR												
04...	1045	E550	105	7.9	6.0	13	11.1	18	43	54	4	13
MAY												
12...	1830	71	268	8.4	16.0	1.5	--	9	--	140	0	30
JUN												
10...	1400	19	285	8.2	22.0	1.1	--	10	K3	150	2	33
JUL												
08...	1600	23	345	8.3	26.5	3.6	7.5	3	47	160	27	35
AUG												
19...	1700	13	295	8.3	23.0	2.5	--	7	32	160	0	35
SEP												
30...	1600	15	315	7.9	23.0	1.0	7.8	--	K7	150	0	33

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT												
24...	18	5.2	.2	1.0	160	2.9	3.3	.1	17	171	180	.23
NOV												
27...	18	5.1	.2	.8	170	.0	3.4	.1	16	189	182	.26
DEC												
11...	17	4.8	.2	.9	170	.0	3.2	.1	16	184	181	.25
JAN												
08...	17	4.7	.2	1.0	160	3.8	3.2	.1	15	181	175	.25
FEB												
13...	13	4.2	.2	.9	120	2.2	2.4	.0	14	129	137	.18
MAR												
04...	5.3	2.4	.1	.8	50	1.3	1.1	.1	6.3	81	61	E.11
MAY												
12...	15	4.0	.1	2.4	140	8.4	2.8	.1	14	151	161	.21
JUN												
10...	17	4.9	.2	1.2	150	.8	3.2	.0	14	170	164	.23
JUL												
08...	17	5.1	.2	1.4	130	‡47	2.1	.2	16	183	202	.25
AUG												
19...	17	5.2	.2	1.1	160	3.9	4.0	.1	16	171	179	.23
SEP												
30...	17	4.8	.2	1.1	160	.8	3.4	.1	16	172	173	.23

K Based on non-ideal colony count.
E Estimated.
‡ Questionable value, not verified.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
OCT												
24...	1	.02	.11	.13	.58	.010	.03	.01	.03	4	200	20
NOV												
27...	--	.04	.59	.67	3.0	.000	.00	.00	.00	6	400	30
DEC												
11...	--	.08	.22	.30	1.3	.010	.03	.01	.03	5	400	70
JAN												
08...	2	.01	.69	.70	3.1	.010	.03	--	--	5	300	40
FEB												
13...	--	.04	.09	.23	1.0	.010	.03	.01	.03	3	300	40
MAR												
04...	12	.04	.53	.56	2.5	.080	.25	.07	.09	2	200	60
MAY												
12...	1	.03	1.7	1.7	7.7	.030	.09	.01	.03	4	100	10
JUN												
10...	10	.03	.33	.34	1.5	.030	.09	.01	.03	5	200	40
JUL												
08...	25	.02	2.7	2.7	12	.010	.03	.01	.03	6	200	50
AUG												
19...	85	.00	.24	.24	1.1	.010	.03	.00	.00	5	300	30
SEP												
30...	112	.01	.20	.20	.89	.280	.86	.00	.00	6	0	10

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)
OCT												
24...	10	0	4	0	100	20	1	20	20	.0	0	0
NOV												
27...	10	1	16	2	70	50	3	20	10	.0	0	0
DEC												
11...	10	1	16	1	80	40	5	20	10	.0	0	0
JAN												
08...	10	0	0	11	100	40	4	20	9	.1	0	0
FEB												
13...	30	0	0	3	120	40	4	20	8	.0	0	0
MAR												
04...	20	0	0	8	760	60	7	10	<1	.0	0	0
MAY												
12...	20	1	0	7	80	<10	3	0	6	.0	0	0
JUN												
10...	20	0	0	4	120	10	2	20	7	.0	0	0
JUL												
08...	10	0	0	0	180	20	2	30	10	.2	0	0
AUG												
19...	20	0	0	8	160	30	10	30	10	.0	0	1
SEP												
30...	30	0	0	4	160	40	2	20	10	.0	0	0

< Actual value is known to be less than value shown.

09504440 OAK CREEK AT RED ROCK CROSSING NEAR SEDONA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT											
24...	50	12	.00	0	--	--	--	--	--	--	--
NOV											
27...	30	3.5	.00	*5	--	--	--	--	--	--	--
DEC											
11...	40	5.5	.00	0	--	--	--	--	--	3	.25
JAN											
08...	40	5.9	.00	1	--	--	--	--	--	--	--
FEB											
13...	10	2.0	.00	*16	--	--	--	--	--	13	2.0
MAR											
04...	40	4.3	.00	1	--	--	--	--	--	--	--
MAY											
12...	80	10	.00	3	--	--	--	--	--	26	5.0
JUN											
10...	20	4.9	.00	*9	.472	.236	--	.000	.000	16	.84
JUL											
08...	40	3.8	.00	1	--	--	--	--	--	28	1.7
AUG											
19...	20	4.9	.00	0	--	--	--	--	--	3	.11
SEP											
30...	40	11	.00	*6	--	--	--	--	--	2	.06

* Value verified.

09504440 OAK CREEK AT RED ROCK CROSSING NEAR SEDONA, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JUN 10,80		JUL 8,80		JUL 8,80		AUG 19,80		AUG 19,80		AUG 19,80	
TIME	1400		1600		1605		1601		1605		1610	
TOTAL CELLS/ML	1300		2600		570		520		26		64	
DIVERSITY: DIVISION	1.4		0.3		0.8		0.8		0.0		0.7	
.CLASS	1.4		0.3		0.8		0.8		0.0		0.7	
..ORDER	2.0		0.3		0.9		0.8		0.0		0.7	
...FAMILY	3.0		0.4		1.1		1.3		0.0		1.4	
....GENUS	3.4		1.1		1.1		1.3		0.0		1.4	

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...OOCYSTACEAE												
....ANKISTRODESMUS	27	2	14	1	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	110	9	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	14	1	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	--	-	14	1	--	-	--	-	--	-	--	-
..TETRASPORALES												
...COCCOMYXACEAE												
....ELAKATOTHRIX	27	2	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	14	1	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	27	2	--	-	15	2	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	69	5	--	-	--	-	13	4	--	-	--	-
....COCCONEIS	27	2	29	1	--	-	--	-	--	-	--	-
...CYMBELLACEAE												
....CYMBELLA	27	2	--	-	--	-	13	4	--	-	39#	60
....EPITHEMIA	250#	19	--	-	--	-	--	-	--	-	--	-
....RHOPALODIA	14	1	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....FRAGILARIA	110	9	--	-	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	26	5	--	-	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	--	-	43	2	--	-	13	4	--	-	--	-
...NAVICULACEAE												
....NAVICULA	55	4	14	1	26	5	13	4	26#100		13#	20
...NITZSCHIACEAE												
....NITZSCHIA	82	6	--	-	26	5	26	8	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	190#	15	--	-	--	-	--	-	--	-	13#	20
..HORMOGONALES												
...OSCILLATORIACEAE												
....LYNGBYA	--	-	1900#	74	460#	82	--	-	--	-	--	-
....OSCILLATORIA	250#	19	550#	21	--	-	240#	76	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	13	2	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09504500 OAK CREEK NEAR CORNVILLE, AZ

LOCATION.--Lat 34°45'56", long 111°53'24", in NW¼SE¼ sec.23, T.16N., R.4 E., Yavapai County, Hydrologic Unit 15060202, near left bank on downstream side of pier of county highway bridge, 0.2 mi (0.3 km) upstream from Page Springs, 4 mi (6 km) northeast of Cornville, and 15 mi (24 km) upstream from mouth.

DRAINAGE AREA.--357 mi^2 (925 km^2).

PERIOD OF RECORD.--July 1940 to September 1945, April 1948 to current year.

REVISED RECORDS.--WSP 1149: 1948(M). WRD Ariz. 1974: 1973.

GAGE.--Water-stage recorder. Altitude of gage is 3,470 ft (1,058 m), from topographic map.

REMARKS.--Records fair. Regulation during low flow by several small diversions for irrigation above station.

AVERAGE DISCHARGE.--37 years, 90.3 ft^3/s (2.557 m^3/s), 65,420 acre-ft/yr (80.7 hm^3/yr); median of yearly mean discharges, 75 ft^3/s (2.12 m^3/s), 54,300 acre-ft/yr (67 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft^3/s (748 m^3/s) Feb. 19, 1980, gage height, 16.30 ft (4.968 m) maximum gage height, 16.48 ft (5.023 m), Sept. 5, 1970; minimum discharge, 6 ft^3/s (0.17 m^3/s) July 27, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1885, 23 ft (7.0 m) in March 1938, from floodmarks (upstream side of bridge).

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,300 ft^3/s (37 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1630	1,980	56.1	5.97	1.820	Feb. 15	0415	16,700	473	13.76	4.194
Jan. 14	2300	1,590	45.0	5.44	1.658	Feb. 18	1630	9,520	270	11.17	3.405
Jan. 18	1915	1,470	41.6	5.24	1.597	Feb. 19	2245	*26,400	748	16.30	4.968
Jan. 30	0500	2,390	67.7	6.49	1.978	Feb. 21	2100	4,010	114	8.00	2.438

Minimum daily, 11 ft^3/s (0.312 m^3/s) June 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	30	38	54	311	375	218	114	22	88	48	16
2	20	30	37	36	233	312	189	90	22	30	35	16
3	21	31	37	35	202	322	172	67	20	21	21	16
4	22	32	37	35	199	400	319	58	20	19	19	16
5	20	33	37	34	199	360	433	53	20	17	18	16
6	22	33	36	34	196	299	340	50	18	17	19	16
7	22	33	36	35	181	319	459	51	17	20	19	17
8	23	38	36	35	141	282	368	43	19	22	20	18
9	23	38	34	36	102	218	346	39	15	24	18	16
10	24	36	34	70	77	207	403	38	11	22	19	17
11	24	35	34	884	63	274	472	39	15	20	20	16
12	24	34	34	1380	56	399	270	42	17	19	19	16
13	24	34	34	908	54	336	223	51	23	63	22	15
14	25	36	34	756	3130	280	202	39	23	34	24	15
15	25	35	34	1010	8550	320	229	37	20	24	24	15
16	25	35	34	477	2140	315	261	36	19	22	24	14
17	25	34	34	319	1790	270	249	31	19	21	20	14
18	26	35	34	622	4560	248	221	31	18	18	17	14
19	26	36	34	606	6300	243	204	31	17	18	17	14
20	28	37	34	389	4560	265	181	28	17	16	17	14
21	66	35	36	302	2210	343	170	23	17	19	16	13
22	37	37	38	267	1530	305	155	26	17	20	16	13
23	29	39	38	218	843	258	130	25	16	21	16	13
24	30	39	36	176	602	357	110	24	16	20	18	13
25	27	40	35	172	463	330	90	23	15	18	17	13
26	27	39	38	167	400	282	75	26	16	17	16	13
27	27	39	39	160	400	218	60	23	16	18	16	13
28	27	37	37	150	404	202	50	26	17	19	15	13
29	27	37	35	451	454	191	40	24	17	17	15	13
30	29	38	34	1460	---	181	90	24	18	18	15	13
31	29	---	34	448	---	219	---	21	---	22	16	---
TOTAL	825	1065	1102	11706	40350	8930	6729	1233	537	744	616	441
MEAN	26.6	35.5	35.5	378	1391	288	224	39.8	17.9	24.0	19.9	14.7
MAX	66	40	39	1460	8550	400	472	114	23	88	48	18
MIN	20	30	34	34	54	181	40	21	11	16	15	13
AC-FT	1640	2110	2190	23220	80030	17710	13350	2450	1070	1480	1220	875

CAL YR 1979 TOTAL 44172 MEAN 121 MAX 1820 MIN 14 AC-FT 87620
WTR YR 1980 TOTAL 74278 MEAN 203 MAX 8550 MIN 11 AC-FT 147300

NOTE.--No gage-height record Aug. 19 to Sept. 30.

09505200 WET BEAVER CREEK NEAR RIMROCK, AZ

LOCATION.--Lat 34°40'29", long 111°40'17", in NW¼SW¼ sec.24, T.15 N., R.6 E., Yavapai County, Hydrologic Unit 15060202, in Coconino National Forest, on right bank 4.5 mi (7.2 km) northeast of Rimrock and 5.7 mi (9.2 km) upstream from Red Tank Draw.

DRAINAGE AREA.--111 mi^2 (287 km^2).

PERIOD OF RECORD.--October 1961 to current year.

REVISED RECORDS.--WRD Ariz. 1969: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,020 ft (1,225 m), from topographic map.

REMARKS.--Records good. No known diversion or regulation above station.

AVERAGE DISCHARGE.--19 years, 36.4 ft^3/s (1.031 m^3/s), 26,370 acre-ft/yr (32.5 hm^3/yr); median of yearly mean discharges, 30 ft^3/s (0.85 m^3/s), 21,700 acre-ft/yr (27 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft^3/s (309 m^3/s) Feb. 19, 1980, gage height, 13.96 ft (4.255 m) from rating curve extended above 5,400 ft^3/s (150 m^3/s); minimum, 5.4 ft^3/s (0.15 m^3/s) Aug. 14, 1962, July 1, 2, 5, 8, 9, 12, 21, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 5,400 ft^3/s or 150 m^3/s) and peak discharges above base of 600 ft^3/s (17 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0430	3,320	94.0	9.65	2.941
Feb. 15	0015	5,660	160	11.42	3.481
Feb. 18	1600	2,640	74.8	9.00	2.743
Feb. 19	2115	*10,900	309	13.96	4.255

Minimum daily, 6.0 ft^3/s (0.17 m^3/s) Aug. 3, 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	7.6	7.2	7.3	206	124	61	83	7.8	8.0	6.6	6.9
2	7.1	7.5	7.2	7.3	123	99	37	43	7.8	7.5	6.2	6.9
3	7.1	7.3	7.2	7.3	95	102	139	28	7.8	7.6	6.0	7.1
4	7.3	7.3	7.2	7.3	94	157	205	19	7.8	7.5	6.6	7.1
5	7.3	7.3	7.2	7.3	89	149	160	14	7.8	7.3	6.4	7.1
6	7.3	7.1	7.3	7.3	78	120	141	11	8.0	7.1	6.2	7.3
7	7.3	7.3	7.3	7.3	62	131	178	10	8.0	7.3	6.0	7.5
8	7.3	8.4	7.3	7.3	39	90	165	9.1	8.0	7.1	6.0	8.1
9	7.3	7.3	7.3	7.6	25	60	165	8.6	8.0	7.1	6.2	7.3
10	7.3	7.3	7.3	12	20	53	200	8.3	7.8	7.3	6.2	7.8
11	7.3	6.9	7.3	22	18	86	200	8.4	7.8	7.1	6.2	7.5
12	7.3	6.9	7.3	55	15	117	109	8.1	7.8	7.3	6.4	7.3
13	7.6	6.9	7.3	122	14	76	106	8.0	7.8	8.1	6.4	7.1
14	7.9	6.9	7.3	217	1320	74	118	8.1	7.8	7.1	6.4	7.1
15	7.9	6.9	7.3	327	2580	97	158	8.4	7.6	7.1	6.2	7.1
16	7.9	6.9	7.3	113	463	102	169	8.3	7.6	6.9	6.2	7.1
17	7.9	6.9	7.3	53	600	83	162	8.1	7.6	6.8	6.2	7.1
18	7.9	7.0	7.3	202	1120	78	149	7.8	7.5	6.8	6.2	7.1
19	7.9	7.0	7.3	210	1910	78	139	7.1	7.5	6.8	6.6	6.9
20	8.1	7.0	7.3	106	1210	64	126	7.3	7.5	6.9	6.6	7.1
21	8.7	7.0	7.5	86	655	85	114	7.6	7.5	6.8	6.4	7.1
22	7.9	7.0	8.0	58	655	101	84	7.6	7.5	6.9	6.4	7.1
23	7.9	7.0	7.5	27	339	107	51	7.6	7.5	6.9	6.6	6.9
24	7.9	7.1	7.3	16	220	145	40	7.8	7.5	6.9	6.5	6.9
25	7.9	7.1	7.3	12	157	107	30	7.8	7.5	6.9	6.4	6.9
26	7.6	7.1	7.8	11	147	75	32	7.8	7.3	6.9	6.8	6.9
27	7.6	7.1	7.8	10	147	51	34	7.8	7.3	6.8	6.8	7.1
28	7.6	7.1	7.4	9.9	152	61	27	7.8	7.3	6.4	6.6	7.1
29	7.9	7.1	7.3	186	153	40	25	7.8	7.3	6.6	6.6	6.9
30	7.9	7.2	7.3	1760	---	33	61	8.0	7.5	6.8	6.6	6.9
31	7.6	---	7.3	410	---	56	---	7.8	---	6.6	6.8	---
TOTAL	236.6	214.5	228.0	4090.9	12706	2801	3385	399.0	229.5	219.2	198.3	214.3
MEAN	7.63	7.15	7.35	132	438	90.4	113	12.9	7.65	7.07	6.40	7.14
MAX	8.7	8.4	8.0	1760	2580	157	205	83	8.0	8.1	6.8	8.1
MIN	7.1	6.9	7.2	7.3	14	33	25	7.1	7.3	6.4	6.0	6.9
AC-FT	469	425	452	8110	25200	5560	6710	791	455	435	393	425

CAL YR 1979 TOTAL 17709.4 MEAN 48.5 MAX 1510 MIN 6.1 AC-FT 35130
WTR YR 1980 TOTAL 24922.3 MEAN 68.1 MAX 2580 MIN 6.0 AC-FT 49430

09505260 MONTEZUMA WELL OUTLET NEAR RIMROCK, AZ

LOCATION.--Lat 34°38'53", long 111°45'02", in NE¼, sec.31, T.15 N., R.6 E., Yavapai County, Hydrologic Unit 15060202, in Montezuma Castle National Monument, on left bank 100 ft (30.5 m) downstream from outlet of Montezuma Well, and 2.5 mi (4.0 km) northeast of Rimrock.

PERIOD OF RECORD.--1948-59, 1961, 1976 (three or less discharge measurements each year); April 1977 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 3,560 ft (1,085 m), from topographic map.

REMARKS.--Records fair. All gage-height record corrected to daily outside gage readings furnished by National Park Service. No diversions between outlet and gage since June 1977 when gate was removed.

COOPERATION.--Records of daily outside gage readings furnished by National Park Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3.2 ft^3/s (0.091 m^3/s) Apr. 4, 8-20, July 17-23, 26-31, Aug. 6, 7, 13-16, 21, 1979; minimum observed, 1.43 ft^3/s (0.040 m^3/s) June 9, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3.0 ft^3/s (0.085 m^3/s) Oct. 1-9, Oct. 28 to Nov. 10, Feb. 26 to Mar. 4, Mar. 7, Mar. 12 to Apr. 1, Apr. 3-6; minimum daily, 2.4 ft^3/s (0.068 m^3/s) Jan. 15, 16, May 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.0	2.7	2.5	2.5	3.0	3.0	2.5	2.5	2.7	2.7	2.6
2	3.0	3.0	2.6	2.5	2.5	3.0	2.9	2.5	2.5	2.8	2.7	2.6
3	3.0	3.0	2.6	2.5	2.5	3.0	3.0	2.5	2.5	2.8	2.7	2.6
4	3.0	3.0	2.6	2.5	2.5	3.0	3.0	2.5	2.6	2.8	2.7	2.6
5	3.0	3.0	2.6	2.5	2.5	2.9	3.0	2.5	2.6	2.7	2.7	2.6
6	3.0	3.0	2.6	2.5	2.5	2.9	3.0	2.5	2.6	2.7	2.7	2.5
7	3.0	3.0	2.6	2.5	2.5	3.0	2.9	2.5	2.6	2.7	2.7	2.5
8	3.0	3.0	2.6	2.5	2.5	2.9	2.9	2.5	2.6	2.8	2.7	2.5
9	3.0	3.0	2.6	2.5	2.5	2.9	2.9	2.5	2.6	2.8	2.7	2.5
10	2.9	3.0	2.6	2.5	2.5	2.9	2.9	2.5	2.6	2.7	2.6	2.5
11	2.9	2.9	2.5	2.5	2.5	2.9	2.9	2.6	2.7	2.8	2.6	2.6
12	2.9	2.9	2.5	2.5	2.5	3.0	2.9	2.5	2.7	2.7	2.6	2.5
13	2.9	2.8	2.5	2.5	2.5	3.0	2.8	2.5	2.7	2.7	2.6	2.6
14	2.8	2.8	2.5	2.5	2.5	3.0	2.8	2.5	2.7	2.7	2.6	2.5
15	2.8	2.8	2.5	2.4	2.7	3.0	2.8	2.5	2.7	2.7	2.6	2.5
16	2.8	2.8	2.5	2.4	2.7	3.0	2.8	2.4	2.7	2.8	2.6	2.5
17	2.8	2.8	2.5	2.5	2.7	3.0	2.8	2.5	2.7	2.7	2.6	2.5
18	2.8	2.8	2.5	2.5	2.8	3.0	2.8	2.5	2.7	2.7	2.6	2.5
19	2.9	2.8	2.5	2.5	2.8	3.0	2.7	2.5	2.7	2.6	2.5	2.5
20	2.9	2.8	2.5	2.5	2.9	3.0	2.7	2.6	2.6	2.6	2.6	2.5
21	2.9	2.8	2.5	2.5	2.9	3.0	2.7	2.6	2.6	2.6	2.6	2.5
22	2.9	2.8	2.5	2.5	2.9	3.0	2.7	2.5	2.7	2.6	2.5	2.5
23	2.9	2.9	2.5	2.5	2.9	3.0	2.7	2.5	2.6	2.6	2.5	2.5
24	2.8	2.9	2.5	2.5	2.9	3.0	2.7	2.6	2.7	2.6	2.6	2.5
25	2.9	2.8	2.5	2.5	2.9	3.0	2.6	2.7	2.7	2.6	2.6	2.6
26	2.9	2.8	2.5	2.5	3.0	3.0	2.6	2.5	2.7	2.6	2.6	2.6
27	2.9	2.8	2.5	2.5	3.0	3.0	2.6	2.5	2.7	2.6	2.6	2.6
28	3.0	2.7	2.5	2.5	3.0	3.0	2.5	2.5	2.6	2.7	2.6	2.6
29	3.0	2.7	2.5	2.5	3.0	3.0	2.5	2.5	2.7	2.8	2.6	2.6
30	3.0	2.7	2.5	2.5	---	3.0	2.5	2.5	2.7	2.8	2.6	2.6
31	3.0	---	2.5	2.5	---	3.0	---	2.5	---	2.7	2.6	---
TOTAL	90.6	86.1	78.6	77.3	78.1	92.4	83.6	78.0	79.3	83.7	81.2	76.3
MEAN	2.92	2.87	2.54	2.49	2.69	2.98	2.79	2.52	2.64	2.70	2.62	2.54
MAX	3.0	3.0	2.7	2.5	3.0	3.0	3.0	2.7	2.7	2.8	2.7	2.6
MIN	2.8	2.7	2.5	2.4	2.5	2.9	2.5	2.4	2.5	2.6	2.5	2.5
AC-FT	180	171	156	153	155	183	166	155	157	166	161	151

CAL YR 1979 TOTAL 1062.7 MEAN 2.91 MAX 3.2 MIN 2.5 AC-FT 2110
WTR YR 1980 TOTAL 985.2 MEAN 2.69 MAX 3.0 MIN 2.4 AC-FT 1950

09505300 RATTLESNAKE CANYON NEAR RIMROCK, AZ

LOCATION.--Lat 34°46'01", long 111°40'23", in NW¼SW¼ sec.24, T.16 N., R.6 E., Yavapai County, Hydrologic Unit 15060202, in Coconino National Forest, on left bank 2.6 mi (4.2 km) upstream from mouth, 7 mi (11 km) northeast of Beaver Creek Ranger Station, and 9 mi (14 km) northeast of Rimrock.

DRAINAGE AREA.--24.6 mi^2 (63.7 km^2).

PERIOD OF RECORD.--June 1957 to Sept. 1980 (discontinued).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,870 ft (1,484 m), from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--23 years, 8.98 ft^3/s (0.254 m^3/s), 6,510 acre-ft/yr (8.03 hm^3/yr); median of yearly mean discharges, 6.0 ft^3/s (0.17 m^3/s), 4,300 acre-ft/yr (5.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft^3/s (113 m^3/s) Feb. 14, 1980, gage height, 11.90 ft (3.627 m), from rating curve extended above 1,100 ft^3/s (31 m^3/s) on basis of computation of peak flow over weir at gage height 8.50 ft (2.591 m) and slope-area measurement at gage height 11.50 ft (3.505 m); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 1,100 ft^3/s or 31 m^3/s as explained above) and peak discharges above base of 150 ft^3/s (4.2 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1330	712	20.2	6.78	2.067
Jan. 14	1900	1,100	31.2	7.86	2.396
Jan. 15	0300	592	16.8	6.38	1.945
Jan. 30	0530	1,030	29.2	7.69	2.344
Feb. 14	2400	*4,000	113	11.90	3.627
Feb. 17	1430	392	11.1	5.98	1.823
Feb. 18	1345	1,490	42.2	8.72	2.658
Feb. 19	2045	3,730	106	11.64	3.548
Feb. 20	1145	536	15.2	6.44	1.963
Feb. 21	1715	582	16.5	6.58	2.006
Feb. 22	1730	302	8.55	5.64	1.719
Feb. 23	1745	234	6.63	5.33	1.625
Apr. 3	1745	440	12.5	6.15	1.875

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	85	58	45	53	.00	.00	.00	.00
2	.00	.00	.00	.00	52	54	40	40	.00	.00	.00	.00
3	.00	.00	.00	.00	39	56	91	30	.00	.00	.00	.00
4	.00	.00	.00	.00	36	116	62	20	.00	.00	.00	.00
5	.00	.00	.00	.00	33	72	59	10	.00	.00	.00	.00
6	.00	.00	.00	.00	30	63	63	6.0	.00	.00	.00	.00
7	.00	.00	.00	.00	23	65	66	3.0	.00	.00	.00	.00
8	.00	.00	.00	.00	12	58	64	2.0	.00	.00	.00	.00
9	.00	.00	.00	.00	5.9	54	62	.80	.00	.00	.00	.00
10	.00	.00	.00	22	3.2	52	69	.70	.00	.00	.00	.00
11	.00	.00	.00	330	1.8	63	62	.60	.00	.00	.00	.00
12	.00	.00	.00	222	.88	61	50	6.0	.00	.00	.00	.00
13	.00	.00	.00	141	.74	53	48	2.0	.00	.00	.00	.00
14	.00	.00	.00	196	650	51	57	.80	.00	.00	.00	.00
15	.00	.00	.00	207	1030	59	64	.60	.00	.00	.00	.00
16	.00	.00	.00	42	110	55	65	.40	.00	.00	.00	.00
17	.00	.00	.00	18	195	46	62	.20	.00	.00	.00	.00
18	.00	.00	.00	92	466	42	60	.10	.00	.00	.00	.00
19	.00	.00	.00	95	582	44	58	.01	.00	.00	.00	.00
20	.00	.00	.00	46	398	55	58	.00	.00	.00	.00	.00
21	.00	.00	.00	33	328	59	56	.00	.00	.00	.00	.00
22	.00	.00	.00	13	191	55	50	.00	.00	.00	.00	.00
23	.00	.00	.00	2.2	112	74	46	.00	.00	.00	.00	.00
24	.00	.00	.00	.81	81	87	42	.00	.00	.00	.00	.00
25	.00	.00	.00	.88	70	64	40	.00	.00	.00	.00	.00
26	.00	.00	.00	.74	61	56	41	.00	.00	.00	.00	.00
27	.00	.00	.00	.62	64	53	43	.00	.00	.00	.00	.00
28	.00	.00	.00	.47	64	54	42	.00	.00	.00	.00	.00
29	.00	.00	.00	174	62	48	42	.00	.00	.00	.00	.00
30	.00	.00	.00	586	---	44	49	.00	.00	.00	.00	.00
31	.00	---	.00	190	---	50	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	2412.72	4786.52	1821	1656	176.21	.00	.00	.00	.00
MEAN	.000	.000	.000	77.8	165	58.7	55.2	5.68	.000	.000	.000	.000
MAX	.00	.00	.00	586	1030	116	91	53	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.74	42	40	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	4790	9490	3610	3280	350	.00	.00	.00	.00

CAL YR 1979 TOTAL 4803.97 MEAN 13.2 MAX 410 MIN .00 AC-FT 9530
WTR YR 1980 TOTAL 10852.45 MEAN 29.7 MAX 1030 MIN .00 AC-FT 21530

NOTE.--No gage-height record Oct. 1 to Jan. 10, May 1 to Sept. 30.

09505350 DRY BEAVER CREEK NEAR RIMROCK, AZ

LOCATION.--Lat 34°43'43", long 111°46'30", in NE¼NW¼ sec.1, T.15 N., R.5 E., Yavapai County, Hydrologic Unit 15060202, in Coconino National Forest, on left upstream abutment of abandoned highway bridge, 400 ft (122 m) upstream from present State Highway 179 and 5.5 mi (8.8 km) north of Rimrock.

DRAINAGE AREA.--142 mi^2 (368 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to current year.

REVISED RECORDS.--WRD Ariz. 1969: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,694.38 ft (1,126.047 m) National Geodetic Vertical Datum of 1929 (Arizona Highway Department bench mark).

REMARKS.--Records fair. No known diversions above station.

AVERAGE DISCHARGE.--20 years, 46.3 ft^3/s (1.311 m^3/s), 33,540 acre-ft/yr (41.4 hm^3/yr); median of yearly mean discharges, 33 ft^3/s (0.93 m^3/s), 23,900 acre-ft/yr (29 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft^3/s (753 m^3/s) Sept. 5, 1970, gage height, 14.35 ft (4.374 m), from rating curve extended above 6,000 ft^3/s (170 m^3/s) on basis of computation of peak flow over weir at gage height 9.07 ft (2.765 m) and 9.69 ft (2.954 m) and slope-area measurement at gage height 14.35 ft (4.374 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended as explained above) and peak discharges above base of 600 ft^3/s (17.0 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1345	3,490	98.8	6.62	2.018
Jan. 14	2000	4,110	116	6.99	2.131
Jan. 18	2015	869	24.6	4.58	1.396
Jan. 30	0600	3,760	106	6.78	2.067
Feb. 14	2400	*18,600	527	12.53	3.819
Feb. 18	1445	5,700	161	7.81	2.380
Feb. 19	2130	14,100	399	11.11	3.386
Feb. 21	2015	2,620	74.2	6.05	1.844
Mar. 4	2000	869	24.6	4.55	1.387
Mar. 24	1945	672	19.0	4.34	1.323
Apr. 4	2000	886	25.1	4.61	1.405

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	417	229	86	236	.00	.00	.00	.00
2	.00	.00	.00	.00	262	157	57	95	.00	.00	.00	.00
3	.00	.00	.00	.00	199	196	132	57	.00	.00	.00	.00
4	.00	.00	.00	.00	189	602	373	40	.00	.00	.00	.00
5	.00	.00	.00	.00	176	394	337	40	.00	.00	.00	.00
6	.00	.00	.00	.00	164	241	313	28	.00	.00	.00	.00
7	.00	.00	.00	.00	127	278	411	22	.00	.00	.00	.00
8	.00	.00	.00	.00	66	130	357	16	.00	.00	.00	.00
9	.00	.00	.00	.00	43	81	378	10	.00	.00	.00	.00
10	.00	.00	.00	219	24	81	479	6.0	.00	.00	.00	.00
11	.00	.00	.00	2240	16	206	461	4.0	.00	.00	.00	.00
12	.00	.00	.00	1510	9.3	266	245	37	.00	.00	.00	.00
13	.00	.00	.00	877	6.4	170	221	23	.00	.00	.00	.00
14	.00	.00	.00	1020	2650	141	249	12	.00	.00	.00	.00
15	.00	.00	.00	1010	4950	196	357	5.0	.00	.00	.00	.00
16	.00	.00	.00	233	754	196	406	3.0	.00	.00	.00	.00
17	.00	.00	.00	114	1030	132	389	2.0	.00	.00	.00	.00
18	.00	.00	.00	433	2340	127	373	1.0	.00	.00	.00	.00
19	.00	.00	.00	389	3000	132	352	.50	.00	.00	.00	.00
20	.00	.00	.00	176	2200	164	332	.10	.00	.00	.00	.00
21	.00	.00	.00	114	1810	221	295	.00	.00	.00	.00	.00
22	.00	.00	.00	83	1390	182	225	.00	.00	.00	.00	.00
23	.00	.00	.00	37	785	225	130	.00	.00	.00	.00	.00
24	.00	.00	.00	19	515	383	83	.00	.00	.00	.00	.00
25	.00	.00	.00	15	342	287	57	.00	.00	.00	.00	.00
26	.00	.00	.00	12	304	176	70	.00	.00	.00	.00	.00
27	.00	.00	.00	9.3	284	106	93	.00	.00	.00	.00	.00
28	.00	.00	.00	7.4	291	141	72	.00	.00	.00	.00	.00
29	.00	.00	.00	309	313	72	70	.00	.00	.00	.00	.00
30	.00	.00	.00	2250	---	66	170	.00	.00	.00	.00	.00
31	.00	---	.00	818	---	99	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	11894.70	24656.7	6077	7573	637.60	.00	.00	.00	.00
MEAN	.000	.000	.000	384	850	196	252	20.6	.000	.000	.000	.000
MAX	.00	.00	.00	2250	4950	602	479	236	.00	.00	.00	.00
MIN	.00	.00	.00	.00	6.4	66	57	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	23590	48910	12050	15020	1260	.00	.00	.00	.00

CAL YR 1979 TOTAL 20605.56 MEAN 56.5 MAX 1210 MIN .00 AC-FT 40870
WTR YR 1980 TOTAL 50839.00 MEAN 139 MAX 4950 MIN .00 AC-FT 100800

09505350 DRY BEAVER CREEK NEAR RIMROCK, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)
JAN 12...	1000	1700	35	5.0	19	3	4.7	1.7	1.0	.1	.8	16

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, SUS-PENDED (MG/L)
JAN 12...	1.2	2.0	.1	10	48	32	.07	.13	80	240	58

09505800 WEST CLEAR CREEK NEAR CAMP VERDE, AZ

LOCATION.--Lat 34°32'19", long 111°41'36", in NW¼NW¼ sec.11, T.13 N., R.6 E., Yavapai County, Hydrologic Unit 15060203, in Coconino National Forest, on left bank at Bull Pen Ranch, 11 mi or 18 km (corrected) upstream from mouth, and 9 mi (14 km) east of Camp Verde.

DRAINAGE AREA.--241 mi^2 (624 km^2).

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,630 ft (1,106 m), from topographic map.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--15 years, 70.9 ft^3/s (2.008 m^3/s), 51,370 acre-ft/yr (63.3 hm^3/yr); median of yearly mean discharges, 56 ft^3/s (1.59 m^3/s), 40,600 acre-ft/yr (50 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft^3/s (634 m^3/s) Dec. 18, 1978, gage height, 11.6 ft (3.54 m), from flood-marks and rating curve extended above 2,700 ft^3/s (76 m^3/s), on basis of slope-area measurements at gage heights 8.3 ft (2.53 m) and 10.15 ft (3.094 m), minimum daily, 12 ft^3/s (0.34 m^3/s) at times during some months in 1966, 1968-70, 1974, 1977, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 2,700 ft^3/s or 76 m^3/s as explained above) and peak discharges above base of 1,000 ft^3/s (28 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0700	5,450	154	7.94	2.420
Feb. 15	Unknown	11,000	312	a9.54	2.908
Feb. 18	2345	3,770	107	7.23	2.204
Feb. 19	2200	*15,100	428	10.42	3.176

Minimum daily, 12 ft^3/s (0.340 m^3/s) Aug. 3, 21-23.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	18	17	500	307	105	53	19	17	15	13
2	17	18	18	18	250	217	105	53	19	17	13	14
3	17	18	19	17	140	187	172	51	18	18	12	15
4	17	17	18	17	135	418	345	46	18	17	15	15
5	17	17	18	18	130	466	332	43	18	16	14	15
6	17	17	18	18	90	349	217	43	18	16	13	16
7	17	18	19	18	65	345	213	40	17	16	13	17
8	17	20	18	18	45	340	210	39	17	16	13	19
9	18	19	18	20	35	250	187	36	17	16	14	16
10	18	19	18	35	30	190	200	33	17	16	14	17
11	18	18	19	99	26	150	223	33	16	16	14	16
12	18	17	18	90	22	250	184	34	16	17	14	15
13	18	17	18	86	19	300	138	32	16	19	15	14
14	18	17	18	62	2600	200	126	30	16	19	15	14
15	18	17	17	362	5300	180	124	30	16	19	15	14
16	18	17	18	227	1300	220	146	30	16	17	14	14
17	18	17	18	99	1600	250	154	29	16	17	13	14
18	18	18	18	516	1860	150	143	26	16	16	13	14
19	18	18	18	345	3330	124	138	26	15	15	13	14
20	19	18	18	220	3390	124	131	25	16	15	13	14
21	19	18	19	200	1550	120	124	24	16	16	12	14
22	19	18	24	157	1410	140	117	23	16	16	12	14
23	19	18	21	82	954	175	99	22	16	16	12	14
24	19	18	19	47	654	244	82	22	15	16	14	14
25	18	18	18	37	490	245	72	22	15	17	14	14
26	18	18	19	37	415	174	62	21	15	17	14	15
27	18	18	19	31	425	138	54	21	15	16	14	15
28	17	18	19	22	460	122	53	20	15	16	13	15
29	18	18	18	80	494	109	55	20	15	17	13	15
30	18	18	17	2650	---	64	57	19	15	16	13	15
31	18	---	17	980	---	80	---	20	---	17	14	---
TOTAL	554	535	572	6625	27719	6648	4368	966	490	515	420	445
MEAN	17.9	17.8	18.5	214	956	214	146	31.2	16.3	16.6	13.5	14.8
MAX	19	20	24	2650	5300	466	345	53	19	19	15	19
MIN	17	17	17	17	19	80	53	19	15	15	12	13
AC-FT	1100	1060	1130	13140	54980	13190	8660	1920	972	1020	833	883

CAL YR 1979 TOTAL 34258 MEAN 93.9 MAX 2270 MIN 15 AC-FT 67950
WTR YR 1980 TOTAL 49857 MEAN 136 MAX 5300 MIN 12 AC-FT 98890

NOTE.--No gage-height record Jan. 31 to Feb. 18.

09506000 VERDE RIVER NEAR CAMP VERDE, AZ

LOCATION.--Lat 34°26'54", long 111°47'21", NW¼ sec.11, T.12 N., R.5 E. (unsurveyed), Yavapai County, Hydrologic Unit 15060203, in Prescott National Forest, 600 ft (180 m) upstream from Chasm Creek, 9.0 mi (14.5 km) southeast of Camp Verde and 9.7 mi (15.6 km) downstream from West Clear Creek.

DRAINAGE AREA.--5,024 mi^2 or 13,000 km^2 (includes 344 mi^2 or 890 km^2 in Aubrey Valley Playa, a closed basin).

PERIOD OF RECORD.--October 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
23...	1400	193	825	8.3	16.0	4.4	10.1	2	K12	310	60
NOV											
29...	1200	204	690	8.2	8.0	12	11.5	--	K4	300	44
DEC											
12...	1030	204	800	8.6	7.0	9.0	13.0	--	K4	290	25
FEB											
13...	1100	E250	480	8.3	8.0	5.4	10.6	--	K4	220	26
MAR											
06...	1430	E1000	212	--	10.0	48	10.0	23	K30	90	6
MAY											
21...	1530	124	719	8.3	35.0	3.4	8.5	0	--	280	52
JUN											
09...	1700	103	670	8.3	26.0	1.2	--	12	K19	340	76
JUL											
09...	1200	126	750	8.3	23.0	6.7	8.4	5	41	320	85
AUG											
20...	1300	92	850	8.1	24.0	6.0	9.6	33	26	340	94

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT											
23...	60	39	44	1.1	3.8	250	95	31	.3	29	449
NOV											
29...	59	38	41	1.0	2.9	260	91	23	.2	25	423
DEC											
12...	57	37	40	1.0	2.9	270	91	24	.2	25	425
FEB											
13...	47	24	23	.7	2.1	190	49	13	.1	22	296
MAR											
06...	21	9.1	7.4	.3	1.3	84	18	4.8	.1	15	143
MAY											
21...	62	31	43	1.1	3.5	230	110	24	.5	25	451
JUN											
09...	62	44	54	1.3	4.1	260	140	31	.2	27	530
JUL											
09...	64	40	47	1.1	4.3	240	120	28	.2	29	495
AUG											
20...	62	46	60	1.4	4.2	250	150	38	.3	30	546

K Based on non-ideal colony count.
E Estimated.

09506000 VERDE RIVER NEAR CAMP VERDE, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, ORTHOPHOSPHATE DISSOL. (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE DISSOL. (MG/L AS PO4)
OCT											
23...	453	.61	21	.03	.44	.45	2.0	.020	.06	.02	.06
NOV											
29...	437	.58	--	.05	.54	.62	2.7	.000	.00	.00	.00
DEC											
12...	440	.58	--	.05	.41	.49	2.2	.010	.03	.00	.00
FEB											
13...	296	.40	--	.27	.27	.55	2.4	.040	.12	.03	.09
MAR											
06...	128	E.19	37	.18	.69	.97	4.3	.120	.37	.05	.15
MAY											
21...	438	.61	6	.10	.59	.66	2.9	.060	.18	.03	.09
JUN											
09...	519	.72	9	.00	.50	.52	2.3	.020	.06	.00	.00
JUL											
09...	477	.67	31	.02	.64	.69	3.1	.010	.03	.00	.00
AUG											
20...	541	.74	107	.00	1.2	1.2	5.3	.030	.09	.00	.00

DATE	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BORON, TOTAL RECOVERABLE (UG/L AS B)	BORON, DISSOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT											
23...	19	200	200	200	0	4	0	350	<10	0	20
NOV											
29...	17	300	210	180	1	20	4	490	10	4	20
DEC											
12...	19	400	210	180	1	20	4	400	<10	5	30
FEB											
13...	12	200	150	110	0	10	6	460	<10	3	30
MAR											
06...	5	100	80	60	1	0	38	1700	<10	4	30
MAY											
21...	14	100	220	200	1	0	27	280	30	18	30
JUN											
09...	19	200	270	270	0	0	7	130	<10	5	10
JUL											
09...	22	100	280	220	0	0	2	400	10	0	30
AUG											
20...	23	<100	290	300	0	0	8	400	<10	22	30

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT										
23...	6	.2	2	0	40	16	.00	0	--	--
NOV										
29...	7	.7	1	0	20	5.1	.00	1	--	--
DEC										
12...	9	.1	1	0	30	6.4	.00	1	37	20
FEB										
13...	10	.0	1	0	20	3.1	.00	0	52	--
MAR										
06...	3	.1	1	0	50	7.9	--	1	--	--
MAY										
21...	7	.2	2	0	‡330	4.8	.00	+14	13	4.4
JUN										
09...	<3	.1	2	0	30	5.4	.00	4	42	12
JUL										
09...	5	.2	1	0	30	6.7	.00	1	31	11
AUG										
20...	5	.3	2	1	40	4.0	.00	+7	66	17

< Actual value is known to be less than value shown.
E Estimated.
+ Value verified.
‡ Questionable value, not verified.

GILA RIVER BASIN

09506000 VERDE RIVER NEAR CAMP VERDE, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JUN 9,80		JUL 8,80		JUL 8,80		JUL 9,80	
TIME	1700		1105		1110		1200	
TOTAL CELLS/ML	1700		11000		6500		9800	
DIVERSITY: DIVISION	1.6		1.4		1.6		1.4	
.CLASS	1.6		1.4		1.6		1.4	
..ORDER	2.4		1.8		2.1		2.0	
...FAMILY	3.0		2.1		2.1		2.2	
....GENUS	3.2		2.3		2.4		2.6	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	220	13	770	7	350	5	1200	12
....CHLORELLA	--	-	86	1	100	2	--	-
....DICTYOSPHAERIUM	--	-	--	-	200	3	970	10
....KIRCHNERIELLA	--	-	--	-	--	-	300	3
....OOCYSTIS	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	86	1	150	2	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	680	6	--	-	--	-
....SCENEDESMUS	--	-	170	2	--	-	370	4
....TETRASTRUM	--	-	340	3	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	57	3	--	-	50	1	75	1
....CHLAMYDOMONAS	140	8	430	4	450	7	900	9
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...CUSCINODISCACEAE								
....CYCLOTELLA	72	4	5600#	52	2800#	43	4500#	46
....MELOSIRA	--	-	--	-	--	-	75	1
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	14	1	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....EPITHEMIA	14	1	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	14	1	--	-	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	50	1	--	-
...NAVICULACEAE								
....DIPLONEIS	14	1	--	-	--	-	--	-
....NAVICULA	43	2	86	1	--	-	75	1
...NITZSCHIACEAE								
....NITZSCHIA	290#	17	260	2	400	6	450	5
...SURIRELLACEAE								
....CYMATOPLEURA	--	-	--	-	--	-	--	-
....SURIRELLA	--	-	170	2	--	-	--	-
.XANTHOPHYCEAE								
..HETEROCOCCALES								
...CHLOROTHECIACEAE								
....OPHIOCYTIUM	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	50	1	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	14	1	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	260	15	2100#	19	1800#	28	750	8
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	290#	17	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	290#	17	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09506000 VERDE RIVER NEAR CAMP VERDE, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	AUG 20,80		AUG 20,80		AUG 20,80	
TIME	1000		1005		1010	
TOTAL CELLS/ML	1700		1200		920	
DIVERSITY: DIVISION	1.0		1.6		1.0	
.CLASS	1.1		1.6		1.0	
..ORDER	1.5		2.1		1.6	
...FAMILY	1.6		2.3		2.2	
....GENUS	1.9		2.5		2.7	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	26	3
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	52	6
...OOCYSTACEAE						
....ANKISTRODESMUS	13	1	13	1	13	1
....CHLORELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	26	3
....KIRCHNERIELLA	--	-	--	-	26	3
....OOCYSTIS	13	1	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	--	-
....SCENEDESMUS	26	2	78	6	78	8
....TETRASTRUM	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	13	1	91	7	26	3
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	91	5	65	5	91	10
....MELOSIRA	1000#	60	480#	39	450#	49
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....COCCONEIS	13	1	--	-	--	-
...CYMBELLACEAE						
....EPITHEMIA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...EPITHEMIACEAE						
....SYNEDRA	26	2	39	3	13	1
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	13	1	--	-
...NAVICULACEAE						
....DIPLONEIS	--	-	--	-	--	-
....NAVICULA	39	2	13	1	--	-
...NITZSCHIACEAE						
....NITZSCHIA	52	3	39	3	78	8
...SURIRELLACEAE						
....CYMATOPLEURA	--	-	--	-	13	1
....SURIRELLA	--	-	--	-	--	-
.XANTHOPHYCEAE						
..HETEROCOCCALES						
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	13	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	13	1	13	1	13	1
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	380#	22	350#	29	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JUN 9,80		JUL 6,80		JUL 6,80		JUL 9,80	
TIME	1700		1105		1110		1200	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	50	1	75	1
....TRACHELOMONAS	--	-	--	-	--	-	75	1
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	--	-

DATE	AUG 20,80		AUG 20,80		AUG 20,80	
TIME	1000		1005		1010	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	13	1	13	1
....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	13	1	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 1%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

09507500 FOSSIL CREEK DIVERSIONS TO CHILDS POWERPLANT, NEAR CAMP VERDE, AZ

LOCATION.--Lat 34°22'06", long 111°39'56", in NE¼SW¼ sec.20, T.11½ N., R.7 E., Yavapai County, Hydrologic Unit 15060203, at head of Stehr Lake, 2.3 mi (3.7 km) northeast of Childs powerplant, 4.4 mi (7.1 km) by flume downstream from Irving powerplant, and 17 mi (27 km) southeast of Camp Verde.

PERIOD OF RECORD.--January 1952 to current year.

GAGE.--Water-stage recorder and weir in concrete flume. Datum of gage is 3,716.2 ft (1,132.70 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Record is obtained at the head of Stehr Lake, a regulatory basin, and shows the water used by Childs powerplant. Most of the flow originates at Fossil Springs, which are fairly constant. Diversion is made from Fossil Creek 8 mi (13 km) upstream from this station and is first used by Irving powerplant. A second diversion from Fossil Creek enters the flume below Irving powerplant. Based on estimates and records for previous years, the flow through the Irving powerplant is estimated to be about 99 percent of the record published herewith.

AVERAGE DISCHARGE.--28 years, 43.0 ft^3/s (1.218 m^3/s), 31,150 acre-ft/yr (38.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 51 ft^3/s (1.44 m^3/s) Apr. 17-21, 1952, Jan. 17, 18, 1965, Dec. 19, 1978, June 6-9, 1979; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	48	46	43	.00	48	45	43	41	38	45	41
2	45	48	46	43	.00	47	45	41	41	45	44	41
3	45	48	46	43	.00	48	45	42	41	44	45	41
4	45	48	45	43	.00	48	45	41	41	44	45	41
5	45	48	45	43	.00	45	45	41	41	44	44	41
6	45	48	43	42	.00	46	43	41	40	44	43	41
7	45	48	44	42	.00	40	45	41	40	44	43	41
8	44	48	45	42	.00	41	44	41	40	44	43	42
9	44	48	45	42	.00	36	44	42	40	44	43	42
10	44	48	45	40	.00	34	43	42	40	44	43	42
11	43	48	45	46	.00	40	43	41	41	44	43	42
12	44	48	45	47	12	46	43	41	41	44	43	42
13	44	48	45	47	46	43	45	42	40	44	43	42
14	44	48	45	45	46	46	43	41	40	44	43	42
15	37	48	45	43	48	46	43	42	41	44	43	42
16	45	48	44	23	48	45	43	42	40	44	43	42
17	36	47	44	.00	48	45	43	42	39	43	43	43
18	48	48	44	3.5	47	45	43	42	39	44	42	43
19	48	48	44	.00	44	46	43	42	40	44	42	43
20	48	48	44	.00	42	45	43	41	41	44	42	43
21	48	48	44	.00	40	46	43	40	41	45	42	43
22	48	48	44	.00	30	45	43	40	41	45	42	42
23	48	48	43	.00	36	33	42	40	41	45	42	42
24	48	47	43	.00	36	40	43	40	41	45	42	42
25	48	47	43	.00	37	36	42	42	40	45	42	42
26	48	47	43	.00	44	33	42	42	40	42	42	42
27	48	47	43	.00	.00	31	42	41	40	43	42	42
28	48	47	43	24	.00	31	42	41	40	44	42	42
29	48	47	43	43	11	36	42	41	40	44	42	42
30	42	47	43	44	---	44	37	42	40	45	41	42
31	48	---	43	27	---	45	---	41	---	45	41	---
TOTAL	1406	1432	1370	815.50	615.00	1300	1292	1281	1211	1362	1325	1258
MEAN	45.4	47.7	44.2	26.3	21.2	41.9	43.1	41.3	40.4	43.9	42.7	41.9
MAX	48	48	46	47	48	48	45	43	41	45	45	43
MIN	36	47	43	.00	.00	31	37	40	39	38	41	41
AC-FT	2790	2840	2720	1620	1220	2580	2560	2540	2400	2700	2630	2500

CAL YR 1979 TOTAL 16735.40 MEAN 45.9 MAX 51 MIN .00 AC-FT 33190
WTR YR 1980 TOTAL 14667.50 MEAN 40.1 MAX 48 MIN .00 AC-FT 29090

09507580 EAST VERDE RIVER DIVERSION FROM EAST CLEAR CREEK, NEAR PINE, AZ

LOCATION.--Lat 34°25'10", long 111°15'50", in NW¼NE¼ sec.23, T.12 N., R.10 E. (unsurveyed), Gila County, Hydrologic Unit 15060203, at confluence of Mail Creek and East Verde River, 0.9 mi (1.4 km) southeast of Washington Park, and 11 mi (18 km) east of Pine.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and weir in concrete flume. Altitude of gage is 5,774 ft (1,760.0 m), from Phelps Dodge Corporation reference mark.

REMARKS.--Records good. Diversion is 9.5 mi (15.3 km) northeast, from Blue Ridge Reservoir on East Clear Creek, in the Little Colorado River basin, to the East Verde River in the Gila River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 34 ft^3/s (0.96 m^3/s) Apr. 19, 29, May 5-7, 10, 12, 15, 18, June 2, 1969; no flow for long periods each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	27	27	.00	.00	.00	.00	.00	.00	24	24	27
2	26	27	26	.00	.00	.00	.00	.00	3.9	23	24	28
3	26	27	26	.00	.00	.00	.00	.00	19	24	24	28
4	27	26	26	.00	.00	.00	.00	.00	18	25	24	27
5	24	26	26	.00	.00	.00	.00	.00	28	28	24	28
6	27	26	26	.00	.00	.00	.00	.00	28	28	24	28
7	26	27	26	.00	.00	.00	.00	.00	28	28	14	27
8	26	12	26	.00	1.0	.00	.00	.00	28	28	25	27
9	26	26	26	.00	16	.00	.00	.00	28	28	28	28
10	26	26	26	.00	8.9	.00	.00	.00	28	28	27	28
11	26	27	26	.00	8.9	.00	.00	.00	28	28	28	28
12	26	27	25	.00	8.6	.00	.00	.00	28	28	28	27
13	27	26	26	.00	8.9	.00	.00	.00	28	28	28	28
14	26	26	25	.00	4.0	.00	.00	.00	28	28	28	28
15	26	21	26	.00	.00	.00	.00	.00	28	28	28	28
16	26	22	26	.00	.00	.00	.00	.00	28	28	28	28
17	26	26	26	.00	.00	.00	.00	.00	28	28	28	28
18	18	26	26	.00	.00	.00	.00	.00	28	28	28	28
19	25	12	26	.00	.00	.00	.00	.00	28	28	27	28
20	27	.00	26	.00	.00	.00	.00	.00	28	28	28	28
21	27	.00	26	.00	.00	.00	.00	.00	28	29	28	27
22	26	.00	11	.00	.00	.00	.00	.00	28	24	28	28
23	27	.00	.00	.00	.00	.00	.00	.00	28	28	28	27
24	27	7.8	.00	.00	.00	.00	.00	.00	28	27	28	27
25	27	23	.00	.00	.00	.00	.00	.00	28	28	28	28
26	26	23	.00	.00	.00	.00	.00	.00	28	28	28	27
27	26	23	.00	.00	.00	.00	.00	.00	28	27	28	28
28	27	18	.00	.00	.00	.00	.00	.00	28	25	28	27
29	27	19	.00	.00	.00	.00	.00	.00	28	25	28	28
30	27	26	.00	.00	---	.00	.00	.00	27	25	28	27
31	27	---	.00	.00	---	.00	---	.00	---	25	28	---
TOTAL	809	602.80	556.00	.00	56.30	.00	.00	.00	767.90	835	825	829
MEAN	26.1	20.1	17.9	.000	1.94	.000	.000	.000	25.6	26.9	26.6	27.6
MAX	28	27	27	.00	16	.00	.00	.00	28	29	28	28
MIN	18	.00	.00	.00	.00	.00	.00	.00	.00	23	14	27
AC-FT	1600	1200	1100	.00	112	.00	.00	.00	1520	1660	1640	1640

CAL YR 1979 TOTAL 5208.80 MEAN 14.3 MAX 30 MIN .00 AC-FT 10330
WTR YR 1980 TOTAL 5281.00 MEAN 14.4 MAX 29 MIN .00 AC-FT 10470

09507980 EAST VERDE RIVER NEAR CHILDS, AZ

LOCATION.--Lat 34°17'00", long 111°38'50", in sec.21, T.11 N., R.7 E. (unsurveyed), Gila County, Hydrologic Unit 15060203, in Tonto National Forest, on left bank 1.3 mi (2.1 km) upstream from mouth and 6 mi (10 km) southeast of Childs.

DRAINAGE AREA.--328 mi^2 (850 km^2).

PERIOD OF RECORD.--September 1961 to December 1965, May 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,500 ft (760 m), from topographic map. Sept. 1, 1961, to Dec. 15, 1965, at site 1 mi (2 km) upstream at altitude 2,600 ft (790 m), datum raised 0.38 ft (0.116 m) Oct. 4, 1963. May 25, 1967, to July 20, 1972, at present site at datum 1.29 ft (0.393 m) higher.

REMARKS.--Records good. Since September 30, 1965, records include transbasin diversions from East Clear Creek to headwaters of East Verde River. (See sta 09507580 and 09598300.)

AVERAGE DISCHARGE.--13 years (water years 1968-80), 80.2 ft^3/s (2.271 m^3/s), 58,100 acre-ft/yr (71.6 hm^3/yr); median of yearly mean discharges, 62 ft^3/s (1.76 m^3/s), 44,900 acre-ft/yr (55 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft^3/s (666 m^3/s) Sept. 5, 1970, gage height, 20.5 ft (6.25 m), present datum, from profile past gage, from rating curve extended above 960 ft^3/s (27 m^3/s) on basis of slope-area measurements at gage heights 10.11 and 20.5 ft (3.082 and 6.25 m), present datum; minimum daily, 0.20 ft^3/s (0.006 m^3/s) June 19 to July 8, 1963, July 21-28, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 960 ft^3/s or 27 m^3/s as explained above) and peak discharges above base of 600 ft^3/s (17.0 m^3/s), revised:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1615	1,130	32.0	4.38	1.335
Jan. 15	0545	1,130	32.0	4.38	1.335
Jan. 19	0300	1,580	44.7	5.01	1.527
Jan. 30	0630	7,230	205	10.30	3.139
Feb. 14	1800	6,230	176	9.50	2.896
Feb. 15	1400	10,600	300	12.80	3.901
Feb. 17	1130	1,750	49.6	5.10	1.554
Feb. 18	2100	5,750	163	9.10	2.774
Feb. 20	0130	*14,100	399	15.10	4.602
Feb. 21	1900	3,760	106	7.80	2.225
Mar. 11	1700	1,110	31.4	4.18	1.274

Minimum daily, 15 ft^3/s (0.425 m^3/s) Jan. 3-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	35	30	16	565	308	126	99	35	91	42	37
2	32	36	35	16	338	259	152	89	34	86	41	37
3	32	35	36	15	230	267	180	82	32	54	38	38
4	32	36	36	15	184	320	244	76	33	47	36	45
5	32	36	36	15	152	299	206	73	41	44	35	74
6	32	36	36	15	131	255	184	70	49	45	35	46
7	32	36	36	15	119	417	178	66	53	45	34	40
8	32	44	36	15	105	279	178	63	54	45	34	56
9	32	41	37	16	95	230	169	59	56	44	31	54
10	32	31	37	113	99	206	169	56	56	38	45	49
11	32	37	38	882	83	575	172	55	56	39	47	49
12	32	37	36	773	79	593	163	57	55	38	39	44
13	32	37	38	359	79	334	149	54	55	105	51	43
14	32	36	38	163	2370	259	136	52	54	67	186	41
15	32	36	38	804	6320	244	131	59	55	49	77	41
16	33	36	38	276	1810	226	145	57	54	46	51	41
17	32	32	38	125	1270	199	148	51	54	44	44	40
18	33	33	38	273	2110	187	144	48	53	42	41	39
19	33	36	38	965	3120	187	141	47	52	40	39	39
20	29	37	38	431	5090	184	138	45	52	42	39	38
21	59	28	43	286	3110	166	131	44	51	48	35	38
22	47	20	52	183	1930	163	128	42	50	67	35	38
23	40	17	45	111	1000	202	118	40	49	58	35	37
24	37	16	32	79	712	237	113	39	48	46	40	37
25	36	17	22	63	565	209	101	39	46	48	156	37
26	36	17	19	54	465	184	90	39	48	45	56	37
27	36	30	20	47	417	178	83	38	49	44	45	38
28	36	31	20	43	376	163	78	37	46	46	42	38
29	36	32	19	598	334	149	82	37	45	45	39	39
30	36	30	17	4180	---	131	96	36	47	45	38	37
31	34	---	16	1070	---	131	---	36	---	43	37	---
TOTAL	1073	961	1040	11996	33258	7741	4273	1685	1464	1586	1543	1267
MEAN	34.6	32.0	33.5	387	1147	250	142	54.4	48.6	51.2	49.8	42.2
MAX	59	44	52	4180	6320	593	244	99	56	105	186	74
MIN	29	16	16	15	79	131	78	36	32	38	31	37
AC-FT	2130	1910	2060	23790	65970	15350	8480	3340	2900	3150	3060	2510

CAL YR 1979 TOTAL 46878 MEAN 128 MAX 5710 MIN 16 AC-FT 92980
WTR YR 1980 TOTAL 67887 MEAN 185 MAX 6320 MIN 15 AC-FT 134700

09508300 WET BOTTOM CREEK NEAR CHILDS, AZ
(Hydrologic bench mark station)

LOCATION.--Lat 34°09'39", long 111°41'32", in sec.36, T.9½ N., R.6 E. (unsurveyed), Gila County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 1.4 mi (2.3 km) upstream from mouth and 13 mi (21 km) south of Childs.

DRAINAGE AREA.--36.4 mi^2 (94.3 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1967 to current year.

REVISED RECORDS.--WRD Ariz. 1970: 1968(M).

GAGE.--Water-stage recorder. Altitude of gage is 2,320 ft (707 m), from topographic map.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--13 years, 15.8 ft^3/s (0.447 m^3/s), 11,400 acre-ft/yr (14.1 hm^3/yr); median of yearly mean discharges, 10.5 ft^3/s (0.30 m^3/s), 7,600 acre-ft/yr (9.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,830 ft^3/s (193 m^3/s) Feb. 19, 1980, gage height, 16.0 ft (4.88 m), from high-water mark in gage well, from rating curve extended above 3,000 ft^3/s (85 m^3/s) on basis of slope-area measurements at gage heights 9.77, 14.18, and 15.66 ft (2.978, 4.322, and 4.773 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 3,000 ft^3/s or 85 m^3/s as explained above) and peak discharges above base of 100 ft^3/s (2.8 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	0800	1,310	37.1	7.50	2.286	Feb. 14	1600	807	22.8	6.75	2.057
Jan. 15	0600	585	16.6	6.35	1.935	Feb. 15	0600	5,770	163	13.70	4.176
Jan. 18	2300	524	14.8	6.22	1.896	Feb. 18	1930	447	12.6	6.19	1.887
Jan. 30	0430	2,280	64.6	8.60	2.621	Feb. 19	2130	*6,830	193	a16.0	4.88

Minimum daily, 0.10 ft^3/s (0.003 m^3/s) Oct. 1-5.
a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.30	.60	.75	93	30	11	4.0	.74	.22	.44	.22
2	.10	.30	.67	.74	55	40	17	2.9	.74	.25	.52	.22
3	.10	.30	.67	.73	36	20	24	2.7	.63	.18	.52	.22
4	.10	.30	.67	.75	26	20	24	2.4	.63	.13	.41	.29
5	.10	.30	.67	.75	20	20	21	2.4	.52	.11	.41	.37
6	.20	.40	.75	.75	16	18	18	2.4	.52	.13	.41	.37
7	.20	.50	.75	.85	14	18	15	2.2	.51	.18	.37	.37
8	.20	.60	.67	.91	12	18	12	2.0	.49	.13	.37	.44
9	.20	.50	.67	1.4	11	18	10	1.8	.48	.11	.37	.37
10	.20	.50	.67	192	10	18	8.3	1.6	.48	.13	.37	1.2
11	.30	.50	.75	696	9.3	16	7.0	1.6	.44	.14	.37	1.1
12	.30	.50	.67	387	8.5	16	6.3	1.6	.44	.22	.25	.85
13	.30	.50	.67	121	8.5	16	5.6	1.8	.44	28	.25	.63
14	.30	.50	.60	56	363	16	4.8	1.8	.44	16	.44	.52
15	.30	.50	.60	255	2070	16	3.8	2.1	.41	5.2	.37	.48
16	.30	.46	.67	100	580	15	3.5	2.9	.41	2.4	.33	.48
17	.30	.46	.67	57	270	15	3.2	3.3	.41	1.4	.37	.41
18	.30	.53	.67	89	227	15	2.7	2.4	.37	1.1	.33	.41
19	.30	.53	.64	261	980	15	2.7	1.8	.37	.74	.29	.37
20	.30	.53	.64	137	3250	15	2.7	1.5	.37	.63	.33	.37
21	.30	.53	.74	120	970	14	2.4	1.3	.33	.52	.29	.33
22	.30	.53	.83	72	500	12	2.2	1.3	.29	.44	.33	.33
23	.30	.53	.73	48	240	21	2.2	1.2	.25	.41	.33	.33
24	.30	.53	.67	31	110	38	2.2	1.2	.22	.41	.37	.33
25	.30	.53	.67	23	40	34	2.2	1.0	.22	.41	.41	.29
26	.30	.53	.74	18	30	29	2.2	1.0	.22	.63	.37	.33
27	.30	.53	.74	15	20	24	2.2	.96	.18	.63	.33	.37
28	.30	.46	.67	13	20	21	2.2	.96	.14	.52	.29	.37
29	.30	.46	.67	166	20	18	2.2	.85	.18	.48	.25	.33
30	.30	.53	.67	955	---	16	3.5	.85	.14	.48	.25	.29
31	.30	---	.74	187	---	13	---	.74	---	.44	.22	---
TOTAL	7.80	14.17	21.24	4006.63	10009.3	615	226.1	56.56	12.01	62.77	10.96	12.99
MEAN	.25	.47	.69	129	345	19.8	7.54	1.82	.40	2.02	.35	.43
MAX	.30	.60	.83	955	3250	40	24	4.0	.74	28	.52	1.2
MIN	.10	.30	.60	.73	8.5	12	2.2	.74	.14	.11	.22	.22
AC-FT	15	28	42	7950	19650	1220	448	112	24	125	22	26

CAL YR 1979 TOTAL 6884.80 MEAN 18.9 MAX 1850 MIN .00 AC-FT 13660
WTR YR 1980 TOTAL 15055.53 MEAN 41.1 MAX 3250 MIN .10 AC-FT 29860

GILA RIVER BASIN

09508300 WET BOTTOM CREEK NEAR CHILDS, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
16...	1315	.27	420	8.1	23.0	8.7	420	250	140	130	--
NOV											
15...	1300	.42	439	8.1	15.0	10.1	800	K15	50	150	0
DEC											
19...	1345	.65	415	8.0	12.0	7.3	K80	<1	K9	150	0
JAN											
17...	1300	55	75	9.4	9.0	8.0	K18	K20	K26	23	12
MAR											
20...	1500	16	110	8.1	14.0	9.2	K53	K5	<1	37	1
APR											
15...	1200	4.1	175	7.3	18.0	8.5	<1	<1	K2	61	0
MAY											
15...	1200	2.0	270	--	18.5	8.1	K5	K2	470	100	0
JUL											
15...	1200	.00	--	--	--	--	--	--	--	--	--
AUG											
19...	1230	.34	360	--	26.0	8.8	3400	K6	360	120	0
SEP											
18...	1700	.54	340	8.5	27.5	9.7	K1000	K19	640	110	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT											
16...	35	11	30	1.1	1.8	180	5.2	15	2.1	36	e251
NOV											
16...	40	13	34	1.2	1.6	200	12	13	e.4	37	e260
DEC											
19...	40	12	30	1.1	1.4	190	15	12	2.0	38	e257
JAN											
17...	6.2	1.8	3.8	.3	.7	11	7.7	2.7	.4	17	69
MAR											
20...	9.8	3.1	5.8	.4	.8	36	5.8	3.2	.4	16	82
APR											
15...	16	5.0	9.4	.6	1.1	62	8.1	5.1	.9	23	108
MAY											
15...	26	8.5	17	.7	1.5	110	9.8	9.1	1.0	32	171
JUL											
15...	--	--	--	--	--	--	--	--	--	--	--
AUG											
19...	23	10	26	1.0	1.7	160	4.1	12	e.2	42	e228
SEP											
18...	29	9.4	28	1.2	1.8	140	e.8	14	e.2	43	196

K Based on non-ideal colony count.
< Actual value is known to be less than value shown.

09508300 WET BOTTOM CREEK NEAR CHILDS, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)
OCT 16...	--	.34	.01	.000	.00	--	--	--	21	<100	40
NOV 16...	273	.35	.03	.020	.06	.010	.03	--	--	--	--
DEC 19...	263	.35	.04	.010	.03	.040	.12	--	--	--	--
JAN 17...	48	.09	.29	.020	.06	.010	.03	--	--	--	--
MAR 20...	67	.11	.02	.020	.06	.010	.03	--	--	--	--
APR 15...	--	.15	.03	.020	.06	.010	.03	6	5	200	20
MAY 15...	171	.23	.00	.030	.09	.000	.00	--	--	--	--
JUL 15...	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	227	.31	.00	.010	.03	.010	.03	--	--	--	--
SEP 18...	214	.27	.00	.010	.03	.000	.00	--	--	--	--

DATE	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 16...	<1	1	<1	10	0	<3	3	<10	70	21
NOV 16...	--	--	--	--	--	--	--	--	--	--
DEC 19...	--	--	--	--	--	--	--	--	--	--
JAN 17...	--	--	--	--	--	--	--	--	--	--
MAR 20...	--	--	--	--	--	--	--	--	--	--
APR 15...	<1	0	<1	0	0	<3	0	<10	120	13
MAY 15...	--	--	--	--	--	--	--	--	--	--
JUL 15...	--	--	--	--	--	--	--	--	--	--
AUG 19...	--	--	--	--	--	--	--	--	--	--
SEP 18...	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09508300 WET BOTTOM CREEK NEAR CHILDS, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
OCT										
16...	3	<10	35	20	5	--	†2.0	<10	--	0
NOV										
16...	--	--	--	--	--	--	--	--	--	--
DEC										
19...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	--	--	--	--	--	--	--	--	--	--
MAR										
20...	--	--	--	--	--	.0	--	--	--	--
APR										
15...	0	0	17	0	3	†.0	.1	<10	0	0
MAY										
15...	--	--	--	--	--	--	--	--	--	--
JUL										
15...	--	--	--	--	--	--	--	--	--	--
AUG										
19...	--	--	--	--	--	.0	--	--	--	--
SEP										
18...	--	--	--	--	--	.0	--	--	--	--

† Value verified.

DATE	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)
OCT										
16...	0	0	200	<6.0	0	<3	.00	<.3	3.3	<.4
NOV										
16...	--	--	--	--	--	--	--	--	--	--
DEC										
19...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	--	--	--	--	--	--	--	--	--	--
MAR										
20...	--	--	--	--	--	--	--	--	--	--
APR										
15...	0	0	90	<6.0	10	8	.00	--	--	--
MAY										
15...	--	--	--	--	--	--	--	--	--	--
JUL										
15...	--	--	--	--	--	--	--	--	--	--
AUG										
19...	--	--	--	--	--	--	--	--	--	--
SEP										
18...	--	--	--	--	--	--	--	--	--	--

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT										
16...	4.8	<.4	2.9	<.4	2.9	.04	--	1.2	2	.00
NOV										
16...	--	--	--	--	--	--	--	--	1	.00
DEC										
19...	--	--	--	--	--	--	--	--	2	.00
JAN										
17...	--	--	--	--	--	--	--	--	2	.30
MAR										
20...	--	--	--	--	--	--	--	--	7	.30
APR										
15...	--	--	--	--	--	--	<.43	--	3	.03
MAY										
15...	--	--	--	--	--	--	--	--	3	.02
JUL										
15...	--	--	--	--	--	--	--	--	--	--
AUG										
19...	--	--	--	--	--	--	--	--	2	.00
SEP										
18...	--	--	--	--	--	--	--	--	7	.01

< Actual value is known to be less than value shown.

09508300 WET BOTTOM CREEK NEAR CHILDS, AZ--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)
OCT 16...	1315	.00	.0	.0	0	.00	.0	.00	.3	.00

DATE	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 16...	.0	.00	.00	.0	.00	.00	.0	.00	.00	.0

DATE	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)
OCT 16...	.00	.0	.00	.0	.00	.00	.0	.00	.00	.00

DATE	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	PCB TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT 16...	.00	.00	.00	0	0	0	.00	.00	.00	.00

09508500 VERDE RIVER BELOW TANGLE CREEK, ABOVE HORSESHOE DAM, AZ

LOCATION.--Lat 34°04'23", long 111°42'56", in sec.35, T.9 N., R.6 E. (unsurveyed), Yavapai County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 1.3 mi (2.1 km) downstream from Tangle Creek and 9 mi (14 km) upstream from Horseshoe Dam.

DRAINAGE AREA.--5,872 mi^2 (15,208 km^2), includes 373 mi^2 (966 km^2) in Aubrey Valley Playa, a closed basin.

PERIOD OF RECORD.--August 1945 to current year.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,029.0 ft (618.44 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. About 12,500 acres (51 km^2) above station are irrigated by surface water and ground water. Low flow slightly regulated by powerplant 32 mi (51 km) above station, using water from Fossil Creek. This station is above all major reservoirs on Verde River.

AVERAGE DISCHARGE.--35 years, 547 ft^3/s (15.49 m^3/s), 396,300 acre-ft/yr (489 hm^3/yr); median of yearly mean discharges, 400 ft^3/s (11.3 m^3/s), 290,000 acre-ft/yr (358 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,800 ft^3/s (2,680 m^3/s) Feb. 15, 1980, gage height, 21.41 ft (6.526 m); minimum discharge, 48 ft^3/s (1.36 m^3/s) June 17, 1956, July 18, 19, 1958, caused by power regulation on Fossil Creek; minimum daily, 61 ft^3/s 1.73 m^3/s) July 18, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1924, 100,000 ft^3/s (2,830 m^3/s) Mar. 3, 1938, gage height, 19.0 ft (5.79 m), from floodmarks, based on comparison with peak discharge at other stations on Verde River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 4,000 ft^3/s (113 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 12	0815	7,260	206	10.43	3.179
Jan. 15	1045	8,580	243	10.99	3.350
Jan. 19	1400	6,250	177	9.94	3.030
Jan. 30	1530	24,000	680	14.74	4.493
Feb. 15	1530	*94,800	2,680	21.41	6.526
Feb. 20	0515	65,800	1,860	19.39	5.910
Mar. 11	2230	4,130	117	8.62	2.627

Minimum daily, 155 ft^3/s (4.39 m^3/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	168	234	267	283	6420	3840	1040	645	194	164	211	188
2	166	233	274	277	3640	3800	1190	795	184	755	214	186
3	168	242	279	275	2510	3500	1130	708	177	1010	232	183
4	168	242	279	278	2010	3800	1590	592	163	626	251	183
5	172	243	284	274	1850	4070	2830	507	168	402	221	208
6	174	249	286	273	1830	4000	2870	458	174	321	207	222
7	179	256	285	275	1740	3800	2460	425	183	271	201	222
8	174	281	283	276	1580	3500	2700	392	200	248	194	207
9	186	289	282	291	1280	3000	2350	377	194	237	195	248
10	190	276	273	576	968	2800	2200	362	188	222	179	240
11	195	283	274	2760	771	2330	2510	355	189	209	195	245
12	205	277	274	6100	652	3270	2540	333	188	194	187	251
13	210	274	274	5310	591	3420	1750	330	189	304	188	248
14	217	264	274	3300	8010	2630	1420	336	176	301	259	240
15	217	271	277	5910	59200	2010	1340	351	181	288	335	219
16	212	270	279	4220	27600	2040	1460	351	185	266	228	207
17	210	267	278	2070	13700	1960	1630	324	176	254	201	198
18	212	263	273	2080	13500	1800	1570	320	181	229	193	193
19	224	257	269	5670	25100	1600	1490	287	183	202	195	193
20	224	269	272	3420	51500	1420	1380	263	186	194	183	181
21	253	275	290	2090	25700	1420	1270	240	174	192	183	186
22	262	269	315	1650	20900	1680	1180	216	183	192	177	188
23	259	260	315	1250	13600	1680	1030	199	179	201	174	195
24	262	262	304	910	9610	1990	877	183	168	188	196	193
25	250	260	289	718	6870	2410	802	186	167	192	243	193
26	235	252	287	610	5410	2450	750	180	158	192	245	193
27	233	263	298	544	4700	2040	710	180	167	181	243	200
28	227	267	302	501	4280	1550	670	169	164	178	229	210
29	222	272	305	802	4130	1400	630	174	160	190	207	212
30	221	274	295	17500	---	1240	590	171	155	288	200	210
31	219	---	289	13400	---	1030	---	180	---	226	195	---
TOTAL	6514	7894	8825	83893	319652	77480	45959	10589	5334	8917	6561	6242
MEAN	210	263	285	2706	11020	2499	1532	342	178	288	212	208
MAX	262	289	315	17500	59200	4070	2870	795	200	1010	335	251
MIN	166	233	267	273	591	1030	590	169	155	164	174	181
AC-FT	12920	15660	17500	166400	634000	153700	91160	21000	10580	17690	13010	12380

CAL YR 1979 TOTAL 341039 MEAN 934 MAX 17700 MIN 129 AC-FT 676500
WTR YR 1980 TOTAL 587860 MEAN 1606 MAX 59200 MIN 155 AC-FT 1166000

09509500 RESERVOIR SYSTEM ON VERDE RIVER AT AND BELOW HORSESHOL DAM, AZ

LOCATION.--This system comprises two storage reservoirs created by Horseshoe and Bartlett Dams on Verde River, Hydrologic Unit 15060203. Gages on Horseshoe Reservoir, formed by Horseshoe Dam, lat 33°59'05", long 111°42'35", in sec.2, T.7 N., R.6 E. (unsurveyed); and Bartlett Reservoir, formed by Bartlett Dam, lat 33°49'05", long 111°37'52", in sec.34, T.6 N., R.7 E. (unsurveyed).

DRAINAGE AREA.--6,185 mi^2 (16,019 km^2), at Bartlett Dam.

PERIOD OF RECORD.--July 1939 to current year. Prior to 1946 published as Bartlett Reservoir at Bartlett Dam.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorders on dam structures. Datum of gage on Horseshoe Reservoir is 1,900.00 ft (579.120 m) and on Bartlett Reservoir 1,599.46 ft (487.515 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1964, Bartlett Reservoir gage datum was 10.00 ft (3.048 m) higher.

REMARKS.--Horseshoe Reservoir is formed by earthfill and rockfill dam; dam completed and storage began Nov. 15, 1945. Bartlett Reservoir is formed by concrete multiple-arch dam; dam completed May 1939 and storage began Feb. 5, 1939. Total capacity of the two reservoirs (capacity tables dated 1978, based on survey in 1977-78) is 309,600 acre-ft (382 hm^3) divided as follows: Horseshoe Reservoir, 131,400 acre-ft (162 hm^3) between elevations 1,915.0 ft (583.69 m)—sill of outlet gage—and 2,026.0 ft (617.52 m)—top of spillway gates; Bartlett Reservoir, 178,200 acre-ft (220 hm^3) between elevations 1,619.46 ft (493.611 m)—10 ft (3.0 m) above sill of outlet gates—and 1,797.46 ft (547,866 m)—top of spillway gates. No dead storage. During the 1980 water year spill over Bartlett Dam because of capacity or near capacity storage occurred during the following periods: Jan. 30, 31, and Feb. 13-26. Records given herein represent usable contents. Water is used for irrigation of Salt River Valley and for municipal supply.

COOPERATION.--Capacity tables furnished by Salt River Valley Water Users' Association.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents of system, 318,000 acre-ft (392 hm^3) May 9, 1973; no storage at times when natural flow of river was passed through reservoir system.

EXTREMES FOR CURRENT YEAR.--Maximum contents of system, 306,500 acre-ft (378 hm^3) Apr. 26, 27; minimum, 115,500 acre-ft (142 hm^3) Sept. 7.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156100	163900	148900	125400	265600	213700	277300	304300	288100	225300	178400	123000
2	156400	163400	148500	125300	265800	215100	278200	304000	287100	225300	176000	121700
3	156800	162800	148400	125000	264400	217200	278900	303800	286500	219500	173400	120200
4	157200	162400	148300	124600	266400	216600	280200	303600	285600	219600	171400	118700
5	157300	161900	148100	124000	270200	222000	283500	304000	284400	219500	168900	117200
6	157300	161500	147600	123600	273700	227100	286800	304800	283200	219400	166500	116100
7	157100	161200	147300	123200	277100	232600	289500	304800	282100	219100	164000	115500
8	157100	161100	147000	122800	280000	243000	292100	304300	281000	218500	162100	115900
9	157400	161200	146600	122800	282400	245900	292300	304200	279900	217700	159600	116400
10	157700	160800	146200	123600	284100	246900	292600	304200	278700	216700	156500	117000
11	158100	159800	145600	127200	285700	248300	293300	304100	276800	215500	153700	117400
12	158500	158600	145200	139400	286400	253000	293800	303900	274900	214300	151900	117900
13	158700	156600	144800	150200	274700	257100	292600	303900	272900	214400	149800	118400
14	158900	155700	144400	157000	273600	260300	293400	303500	271000	214200	147900	118900
15	159100	154800	144200	167800	287900	262000	295500	303000	269100	213200	146500	119200
16	159500	154200	144000	175600	237500	263700	298100	302500	266000	212500	145400	119700
17	159800	154000	143100	179000	233600	265100	300700	302200	261200	211200	144200	120100
18	160100	153700	140800	182800	183000	266000	302700	302100	257400	209700	142800	120800
19	160700	153300	139100	193300	193100	266500	303500	302000	256000	208300	141600	121000
20	160800	152900	137500	198900	248800	266800	304300	301500	253900	207200	140100	121300
21	161100	152600	136100	202700	236600	266600	304700	300700	251600	204500	138400	121500
22	161600	152500	135100	205900	231600	266500	304400	300300	249300	201400	136600	121800
23	162000	152100	134100	208000	240900	266700	304700	299400	247000	198700	135000	122200
24	162600	151600	133700	209300	218800	267300	305500	298400	243800	196300	133500	122500
25	163200	151300	133100	210300	196800	268600	306100	297600	241200	193900	132100	122900
26	163600	151100	132000	210700	200100	269600	306500	296900	238600	191900	130700	123200
27	164100	150600	130400	211300	204300	272100	306500	296000	236000	189600	129300	123700
28	164500	150200	128700	211700	207900	274600	306100	295100	233300	188100	127700	124000
29	164800	149700	127000	214000	211100	275600	305500	293800	230600	185600	126400	124400
30	165100	149300	125800	245900	---	276200	304700	291700	227700	183400	125200	124700
31	164500	---	125400	261500	---	276700	---	289800	---	180900	124300	---
MAX	165100	163900	148900	261500	287900	276700	306500	304800	288100	225300	178400	124700
MIN	156100	149300	125400	122800	183000	213700	277300	289800	227700	180900	124300	115500
(†)	+8500	-15200	-23900	+136100	-50400	+65600	+28000	-14900	-62100	-46800	-56600	+400

CAL YR 1979 MAX 305400 MIN 125400 † -144000
WTR YR 1980 MAX 306500 MIN 115500 † -31300

† Change in contents, in acre-feet.

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ
(National stream-quality accounting network station)

LOCATION.--Lat 33°49'03", long 111°38'08", in SE¼ sec.33, T.6 N., R.7 E. (unsurveyed), Maricopa County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 1,300 ft (400 m) downstream from Bartlett Dam, 5.9 mi (9.5 km) upstream from Camp Creek, and 18 mi (29 km) east of town of Cave Creek.

DRAINAGE AREA.--6,185 mi^2 (16,019 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1888 to current year. (Monthly discharge only August 1888 to December 1903, and January 1910 to September 1913. For some periods prior to December 1903 gage heights, discharge measurements, and daily discharge hydrograph are published in reports of the Geological Survey.) Prior to October 1941, published under different names as follows: "near Fort McDowell," "at mouth," "above Salt River," "at McDowell," "at McDowell near Lehi," "near McDowell," and "above Camp Creek, near McDowell."

REVISED RECORDS.--WSP 1049: 1893, 1913-14, 1917-18, 1926-27, 1929. WSP 1213: 1915-16. WSP 1283: Drainage area.

GAGE.--Water-stage recorder at present site and datum since Mar. 4, 1975, at present site and at datum 2.00 ft (0.610 m) higher, Oct. 1, 1973, to Mar. 3, 1975, and 3.00 ft (0.914 m) higher, Oct. 1, 1961, to Dec. 29, 1965, and Mar. 11, 1971, to Sept. 30, 1973. Altitude of gage is 1,600 ft (488 m), from topographic map. Prior to Feb. 17, 1925, nonrecording gages at several sites about 20 mi (32 km) downstream at various datums. Feb. 17, 1925, to Dec. 31, 1941, water-stage recorder at two sites within 0.5 mi (0.8 km) upstream from Camp Creek, at various datums. Dec. 31, 1941, to Sept. 30, 1961, and Dec. 30, 1965, to Mar. 10, 1971, water-stage recorder at site 1.9 mi (3.1 km) downstream at datum 1,572.34 ft (479.249 m) National Geodetic Vertical Datum of 1929; Mar. 2 to Sept. 30, 1978, used as supplementary gage; since Oct. 1, 1978, used as main gage. Feb. 18, 1975 to Feb. 28, 1978, supplementary water-stage recorder at site 30 ft upstream from main gage at same datum.

REMARKS.--Records good. About 12,500 acres (50.6 km^2) above station are irrigated by surface water and ground water. Flow completely regulated by Bartlett Reservoir since Feb. 5, 1939, and Horseshoe Reservoir since Nov. 15, 1945 (see preceding page), except during periods of spill. Water diverted downstream for municipal supply of city of Phoenix, and for irrigation in Fort McDowell Indian Reservation. Remainder (except during infrequent periods of extreme flooding) is diverted at Granite Reef Dam on Salt River 27 mi (43 km) downstream for irrigation in Salt River Valley, and for municipal use by the city of Phoenix.

AVERAGE DISCHARGE (adjusted for storage in Bartlett and Horseshoe Reservoirs).--92 years, 682 ft^3/s (19.31 m^3/s), 494,100 acre-ft/yr (609 hm^3/yr); median of yearly mean discharge, 550 ft^3/s (15.6 m^3/s), 398,000 acre-ft/yr (490 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--1888-1939: Maximum discharge not determined, probably over 150,000 ft^3/s (4,250 m^3/s) Feb. 24, 1891; minimum daily, 29 ft^3/s (0.82 m^3/s) July 11, 13, 1901. Floods of Nov. 27, 1905, and Mar. 4, 1938, reached maximum discharges of 96,000 ft^3/s (2,720 m^3/s) and 95,000 ft^3/s (2,690 m^3/s), respectively.
1939-80: Maximum discharge, 101,000 ft^3/s (2,860 m^3/s) Mar. 2, 1978; no flow at Bartlett Dam at times when gates in dam were closed.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 97,300 ft^3/s (2,760 m^3/s) Feb. 15, gage height, 25.4 ft (7.742 m); no flow Sept. 8-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	571	553	335	5440	2710	1030	1090	1300	1240	1580	810
2	74	524	565	400	4800	2710	1030	1090	757	740	1520	840
3	70	524	512	481	4640	3070	995	1090	685	750	1520	1030
4	68	489	518	626	2000	2260	967	928	780	670	1490	1040
5	63	473	506	683	40	990	1090	476	676	640	1480	1020
6	59	451	512	636	30	504	1090	275	869	570	1570	848
7	55	415	518	620	25	116	1090	509	830	600	1540	730
8	50	386	484	646	20	226	1670	682	809	660	1520	.00
9	40	357	495	590	15	933	2270	490	863	760	1620	.00
10	24	497	501	549	10	1380	2270	335	936	890	1560	.00
11	22	773	571	420	8.0	1570	2270	335	1120	940	1330	.00
12	20	976	602	241	454	1380	2270	371	1210	890	1200	.00
13	18	1140	577	155	3380	1450	2270	446	1230	710	1480	.00
14	14	1020	501	240	11900	1400	1410	563	1140	690	1440	.00
15	10	895	501	294	58800	1310	495	654	1170	820	1120	.00
16	11	617	805	444	58000	1360	495	722	1740	870	960	.00
17	11	506	1050	537	20600	1550	495	637	2660	980	911	.00
18	11	524	1140	577	39700	1680	784	484	1530	1040	943	.00
19	11	501	1300	475	29900	1700	1090	484	1490	980	903	.00
20	11	583	1320	512	34600	1760	1090	533	1460	943	960	.00
21	11	415	1240	371	37500	2010	1090	668	1410	1620	1100	.00
22	11	367	958	261	27400	2010	1090	668	1340	1790	1140	.00
23	11	518	865	348	10900	2020	766	668	1430	1610	1060	.00
24	11	541	671	435	18000	2040	420	668	1460	1590	1010	.00
25	11	467	670	506	15900	2090	553	668	1490	1570	1010	.00
26	10	430	1020	518	4190	2190	592	608	1580	1470	1040	.00
27	11	518	1360	445	2920	1060	871	608	1570	1340	1090	.00
28	11	500	1410	451	2710	751	871	672	1570	1250	1060	.00
29	11	565	1280	386	2710	1030	878	918	1580	1510	1010	.00
30	11	529	1060	7350	---	1030	1090	1330	1600	1560	895	.00
31	477	---	600	7990	---	1030	---	1380	---	1660	802	---
TOTAL	1306	17072	24665	28522	396592.0	47340	34392	21050	38285	33353	37864	6318.00
MEAN	42.1	569	796	920	13680	1527	1146	679	1276	1076	1221	211
MAX	477	1140	1410	7990	58800	3070	2270	1380	2660	1790	1620	1040
MIN	10	357	484	155	8.0	116	420	275	676	570	802	.00
AC-FT	2590	33860	48920	56570	786600	93900	68220	41750	75940	66160	75100	12530

CAL YR 1979 TOTAL 460863.00 MEAN 1263 MAX 22300 MIN .00 AC-FT 914100
WTR YR 1980 TOTAL 686759.00 MEAN 1876 MAX 58800 MIN .00 AC-FT 1362000

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1950 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to current year.
WATER TEMPERATURES: December 1950 to current year.

REMARKS.--Unpublished daily specific conductance measurements for period December 1950 to September 1964 available from district office in Tucson, Ariz.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 958 micromhos Nov. 10, 1956; minimum observed, 160 micromhos Feb. 29, 1980.
WATER TEMPERATURES: Maximum observed, 32.0°C July 18, Aug. 14, 1951; minimum observed, 5.0°C Jan. 30, 1952.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 530 micromhos Jan. 16-23; minimum observed, 160 micromhos Feb. 29.
WATER TEMPERATURES: Maximum observed, 24.0°C Aug. 24-27, 29-31, Sept. 1-7; minimum observed, 9.0°C Mar. 12-24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT												
31...	0930	500	485	8.6	21.0	2.9	9.8	3	K4	190	15	38
NOV												
28...	0815	456	485	7.2	16.0	4.3	9.3	3	<1	210	20	43
DEC												
18...	0915	1060	505	8.0	13.5	5.2	11.2	2	<1	210	100	43
JAN												
30...	0845	9760	500	8.7	12.0	18	9.9	K13	K5	220	49	43
FEB												
26...	1515	3270	154	8.2	9.0	180	12.4	132	480	66	0	16
APR												
16...	0900	495	253	7.4	12.5	14	7.7	<1	<1	110	8	26
MAY												
07...	0915	157	271	7.6	13.5	12	10.3	<1	K1	120	12	29
JUN												
03...	0930	759	298	8.3	14.0	18	10.1	<1	--	120	4	30
JUL												
09...	0845	758	322	8.4	19.0	13	9.0	K1	236	140	10	33
AUG												
26...	0830	1010	392	8.6	24.0	3.6	8.2	<1	<1	170	11	37
SEP												
09...	0845	1.9	461	8.4	26.0	2.5	7.0	K33	62	190	13	41

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT												
31...	22	26	.8	3.1	170	56	16	.4	18	275	282	.37
NOV												
28...	25	31	.9	3.3	190	54	16	.4	19	301	307	.41
DEC												
18...	25	29	.9	3.0	110	59	18	.2	18	316	262	.43
JAN												
30...	27	27	.8	2.9	170	56	19	.4	17	320	295	.44
FEB												
26...	6.2	7.0	.4	1.6	68	9.6	2.8	.2	17	98	103	.13
APR												
16...	10	8.3	.4	1.8	98	18	5.0	.2	16	157	145	.21
MAY												
07...	12	10	.4	1.8	110	21	6.4	.3	17	162	164	.22
JUN												
03...	12	11	.4	1.7	120	23	6.5	.3	16	176	173	.24
JUL												
09...	14	14	.5	2.0	130	25	7.4	.2	16	201	190	.27
AUG												
26...	19	18	.6	2.3	160	35	11	.3	18	248	237	.34
SEP												
09...	22	27	.8	3.2	180	46	17	.5	20	320	286	.44

< Actual value is known to be less than value shown.
K Based on non-ideal colony count.

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DISSOLVED (MG/L AS N)
OCT											
31...	.07	.090	.050	.11	.34	.25	.43	.13	.30	.51	.37
NOV											
28...	.17	.030	.060	.04	.43	.61	.46	.00	.67	.58	.84
DEC											
18...	.10	.000	.020	.00	.41	.32	.41	.07	.34	.51	.44
JAN											
30...	.10	.030	.030	.04	.14	.00	.17	.17	.00	.27	.10
FEB											
26...	.21	.150	.000	.18	1.5	.85	1.6	.75	.85	1.8	1.1
APR											
16...	.20	.040	.000	.05	.48	.30	.52	.22	.30	.73	.50
MAY											
07...	.16	.040	.060	.05	.67	.32	.71	.33	.38	.86	.56
JUN											
03...	.10	.010	.030	.01	.44	.38	.45	.04	.41	.55	.51
JUL											
09...	.02	.040	.030	.05	.38	.36	.42	.03	.39	.44	.41
AUG											
20...	.00	.090	.060	.11	.53	.48	.62	.08	.54	.62	.54
SEP											
09...	.15	.050	.060	.06	.43	.52	.48	.00	.58	.66	.73

DATE	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL (UG/L AS CR)
OCT											
31...	2.3	.010	.03	.000	--	--	--	--	--	--	--
NOV											
28...	2.6	.010	.03	.030	10	11	400	60	0	<1	0
DEC											
18...	2.3	.020	.06	.010	--	--	--	--	--	--	--
JAN											
30...	1.2	.050	.15	.000	--	--	--	--	--	--	--
FEB											
26...	8.0	.510	1.6	.060	8	7	300	200	0	<1	20
APR											
16...	3.2	.090	.26	.060	--	--	--	--	--	--	--
MAY											
07...	3.8	.080	.25	.050	--	--	--	--	--	--	--
JUN											
03...	2.4	.070	.21	.040	9	9	0	40	0	<1	0
JUL											
09...	1.9	.110	.34	.010	--	--	--	--	--	--	--
AUG											
26...	2.7	.040	.12	.030	--	--	--	--	--	--	--
SEP											
09...	2.9	.060	.18	.030	16	17	0	70	0	<1	0

< Actual value is known to be less than value shown.

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT											
31...	--	--	--	--	--	--	--	--	--	--	--
NOV											
28...	0	0	<3	0	1	330	<10	3	0	30	6
DEC											
18...	--	--	--	--	--	--	--	--	--	--	--
JAN											
30...	--	--	--	--	--	--	--	--	--	--	--
FEB											
26...	0	5	<3	25	3	6700	30	4	0	210	10
APR											
16...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
03...	0	0	<3	10	6	520	<10	8	0	30	5
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	0	0	<3	5	3	270	10	5	3	220	130

DATE	MERCURY TOTAL (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
31...	--	--	--	--	--	--	--	--	--	--	2.9
NOV											
28...	3.5	.3	2	0	0	1	0	0	0	<3	--
DEC											
18...	--	--	--	--	--	--	0	--	--	--	8.7
JAN											
30...	--	--	--	--	--	--	--	--	--	--	15
FEB											
26...	.1	.0	16	0	0	0	2	0	50	50	--
APR											
16...	--	--	--	--	--	--	0	--	--	--	4.5
MAY											
07...	--	--	--	--	--	--	--	--	--	--	5.3
JUN											
03...	.1	.1	7	1	0	0	0	0	40	<3	--
JUL											
09...	--	--	--	--	--	--	0	--	--	--	7.0
AUG											
26...	--	--	--	--	--	--	--	--	--	--	8.6
SEP											
09...	.0	.0	7	1	0	0	0	0	100	<3	--

< Actual value is known to be less than value shown.

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUORUM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SED-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
31...	--	--	--	--	--	--	--	--	11	15	67
NOV											
26...	3.6	.1	470	38.5	34.8	1200	3.09	.000	16	20	66
DEC											
18...	--	--	--	--	--	--	--	--	15	43	76
JAN											
30...	--	--	--	--	--	--	--	--	98	2580	67
FEB											
26...	5.9	3.4	--	--	--	--	--	--	183	1620	97
APR											
16...	--	--	120	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	191	81	--
JUN											
03...	5.3	.2	450	--	--	--	--	--	30	61	--
JUL											
09...	--	--	--	--	--	--	--	--	13	27	--
AUG											
26...	--	--	120	14.1	10.6	81.6	42.9	2.09	11	30	--
SEP											
09...	15	.2	1200	--	--	--	--	--	8	.04	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	500	490	510	420	190	210	300	300	330	345	395
2	340	495	490	510	430	185	230	305	310	330	350	390
3	340	495	490	510	420	185	230	305	310	330	360	390
4	340	495	495	510	420	185	230	---	310	330	350	420
5	340	490	500	520	420	205	230	310	310	330	355	480
6	340	500	500	520	400	190	230	310	310	335	350	420
7	340	500	495	515	---	---	230	310	310	330	375	480
8	340	500	500	520	---	---	230	315	310	340	370	---
9	350	500	500	520	---	185	230	315	310	340	375	---
10	350	505	500	525	---	185	235	310	310	340	370	---
11	350	505	505	525	---	185	240	310	310	340	370	---
12	350	500	510	525	---	185	240	310	310	360	380	---
13	350	505	500	525	360	185	245	325	310	350	375	---
14	350	500	500	525	340	190	250	325	310	350	370	---
15	350	500	500	525	---	190	250	325	310	350	375	---
16	350	500	500	530	---	190	250	320	315	350	375	---
17	350	490	495	530	---	190	250	320	310	350	380	---
18	355	490	500	530	---	190	250	320	310	350	380	---
19	355	490	500	530	---	190	255	320	315	355	380	---
20	355	490	500	530	---	200	255	320	315	360	380	---
21	355	490	490	530	---	200	255	320	310	360	405	---
22	355	490	480	530	---	200	255	325	315	350	405	---
23	395	490	500	530	---	200	255	325	315	350	400	---
24	420	490	500	500	---	200	260	330	315	360	400	---
25	420	490	500	520	---	200	260	320	325	360	400	---
26	460	490	495	510	---	200	260	320	320	360	405	---
27	460	490	480	505	---	205	260	315	320	360	410	---
28	470	490	450	510	180	200	260	320	340	360	410	---
29	470	490	460	510	160	205	260	320	335	360	410	---
30	470	495	460	510	---	205	260	330	335	360	410	---
31	440	---	440	510	---	205	---	325	---	365	430	---
MEAN	376	495	491	519	355	194	245	318	315	348	382	425
MAX	470	505	510	530	430	205	260	330	340	365	430	480
MIN	340	490	440	500	160	185	210	300	300	330	345	390

WTR YR 1980 MEAN 371 MAX 530 MIN 160

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	19.0	16.0	15.0	10.0	10.0	11.0	13.0	15.0	19.0	20.0	24.0
2	20.0	19.0	16.0	13.0	10.0	10.0	11.0	13.0	15.0	20.0	21.0	24.0
3	20.0	19.0	16.0	13.0	10.0	10.0	11.0	13.0	15.0	17.0	21.0	24.0
4	20.0	18.0	15.0	12.0	11.0	10.0	11.0	---	15.0	18.0	21.0	24.0
5	20.0	18.0	16.0	12.0	11.0	10.0	11.0	13.0	15.0	18.0	21.0	24.0
6	20.0	18.0	16.0	12.0	11.0	10.0	12.0	14.0	15.0	18.0	21.0	24.0
7	20.0	18.0	16.0	12.0	---	---	14.0	14.0	15.0	19.0	21.0	24.0
8	20.0	18.0	16.0	12.0	---	---	14.0	14.0	15.0	19.0	21.0	---
9	20.0	18.0	16.0	12.0	---	10.0	14.0	14.0	15.0	19.0	21.0	---
10	20.0	18.0	16.0	11.0	---	10.0	15.0	14.0	15.0	19.0	21.0	---
11	20.0	18.0	15.0	11.0	---	10.0	12.0	13.0	15.0	19.0	21.0	---
12	20.0	18.0	15.0	11.0	---	9.0	12.0	13.0	15.0	20.0	21.0	---
13	20.0	18.0	15.0	11.0	11.0	9.0	12.0	14.0	15.0	21.0	21.0	---
14	20.0	18.0	15.0	11.0	11.0	9.0	12.0	14.0	15.0	21.0	21.0	---
15	20.0	18.0	14.0	11.0	---	9.0	11.0	14.0	15.0	20.0	21.0	---
16	20.0	18.0	14.0	11.0	---	9.0	12.0	14.0	15.0	20.0	22.0	---
17	20.0	18.0	14.0	11.0	---	9.0	12.0	15.0	14.0	20.0	22.0	---
18	20.0	18.0	14.0	11.0	---	9.0	12.0	15.0	14.0	20.0	22.0	---
19	20.0	18.0	14.0	11.0	---	9.0	12.0	15.0	15.0	20.0	22.0	---
20	20.0	18.0	14.0	11.0	---	9.0	12.0	15.0	15.0	20.0	22.0	---
21	20.0	17.0	14.0	11.0	---	9.0	13.0	16.0	16.0	20.0	22.0	---
22	20.0	17.0	14.0	11.0	---	9.0	13.0	16.0	16.0	20.0	23.0	---
23	20.0	17.0	14.0	10.0	---	9.0	13.0	15.0	16.0	20.0	23.0	---
24	19.0	17.0	13.0	10.0	---	9.0	12.0	15.0	16.0	20.0	24.0	---
25	19.0	16.0	13.0	10.0	---	10.0	13.0	14.0	16.0	20.0	24.0	---
26	19.0	16.0	13.0	10.0	---	10.0	13.0	14.0	17.0	20.0	24.0	---
27	19.0	16.0	13.0	10.0	---	10.0	13.0	14.0	17.0	20.0	24.0	---
28	19.0	16.0	13.0	10.0	10.0	10.0	13.0	14.0	17.0	21.0	23.0	---
29	19.0	16.0	13.0	10.0	10.0	10.0	13.0	14.0	18.0	21.0	24.0	---
30	18.0	16.0	13.0	10.0	---	10.0	13.0	15.0	18.0	20.0	24.0	---
31	---	---	13.0	11.0	---	10.0	---	15.0	---	20.0	24.0	---
MEAN	19.5	17.5	14.5	11.0	10.5	9.5	12.5	14.0	15.5	19.5	22.0	24.0
MAX	20.0	19.0	16.0	15.0	11.0	10.0	15.0	16.0	18.0	21.0	24.0	24.0
MIN	18.0	16.0	13.0	10.0	10.0	9.0	11.0	13.0	14.0	17.0	20.0	24.0

WTR YR 1980 MEAN 15.5 MAX 24.0 MIN 9.0

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	MAY 28,79		APR 16,80		JUN 3,80		JUL 9,80		AUG 25,80		SEP 8,80	
TIME	0915		0900		0930		0845		0830		0845	
TOTAL CELLS/ML	470		120		450		130		120		1200	
DIVERSITY: DIVISION	0.9		0.0		0.0		0.5		1.0		0.7	
.CLASS	0.9		0.0		0.0		0.5		1.0		0.7	
..ORDER	1.2		0.0		0.0		0.5		1.4		1.7	
...FAMILY	2.2		0.0		0.0		0.9		2.2		2.1	
....GENUS	2.2		0.0		0.0		0.9		2.2		2.2	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...COELASTRACEAE												
....COELASTRUM	60	13	--	-	--	-	100#	80	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	5	1	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	15	3	--	-	--	-	--	-	--	-	--	-
....CHLORELLA	50	11	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	13	10	13	11	--	-
....TETRAEDRON	120#	26	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	50	11	--	-	--	-	--	-	26#	22	26	2
..ZYGNEMATALES												
...DESMIDIACEAE												
....STAURASTRUM	--	-	--	-	--	-	--	-	13	11	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	120#	26	--	-	--	-	--	-	--	-	64	5
....MELOSIRA	--	-	--	-	--	-	--	-	--	-	39	3
....SKELETONEMA	10	2	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	90#	78	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....COCCONEIS	5	1	--	-	--	-	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	--	-	13	1
...FRAGILARIACEAE												
....SYNEDRA	--	-	--	-	--	-	--	-	39#	33	13	1
...GOMPHONEMATACEAE												
....GOMPHONEMA	5	1	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....NAVICULA	--	-	--	-	--	-	--	-	--	-	52	4
...NITZSCHIACEAE												
....NITZSCHIA	35	7	26#	22	--	-	13	10	26#	22	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-	590#	48
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	450#	100	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-	280#	23
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	--	-	--	-	150	13

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09510100 EAST FORK SYCAMORE CREEK NEAR SUNFLOWER, AZ

LOCATION.--Lat 33°56'58", long 111°27'39", in NE¼SE¼ sec. 18, T.7 N., R.9 E., Maricopa County, Hydrologic Unit 15060203, in Tonto National Forest, on left bank 1.7 mi (2.7 km) upstream from confluence with West Fork and 6.0 mi (9.7 km) north of Sunflower.

DRAINAGE AREA.--4.49 mi^2 (11.6 km^2).

PERIOD OF RECORD.--July 1961 to current year. Low-flow records not equivalent prior to Nov. 10, 1964, owing to undetermined amount of underflow between sites.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,140 ft (1,262 m), from topographic map. Prior to Nov. 10, 1964, at site 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No storage or diversion above station.

AVERAGE DISCHARGE.--19 years, 0.928 ft^3/s (0.0263 m^3/s), 672 acre-ft/yr (829,000 m^3/yr); median of yearly mean discharges, 0.41 ft^3/s (0.012 m^3/s), 300 acre-ft/yr (370,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft^3/s (54.9 m^3/s) Sept. 5, 1970, gage height, 9.50 ft (2.896 m), from profile past gage, from rating curve extended above 130 ft^3/s (3.7 m^3/s) on basis of slope-area measurements at gage heights 5.07 and 9.50 ft (1.545 and 2.896 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 130 ft^3/s or 3.7 m^3/s as explained above) and peak discharges above base of 20 ft^3/s (0.6 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 12	Unknown	43	1.22	2.56	0.780	Feb. 14	Unknown	192	5.44	3.92	1.195
Jan. 18	Unknown	21	0.60	2.17	0.661	Feb. 15	Unknown	209	5.92	4.06	1.237
Jan. 29	Unknown	Unknown	----	Unknown	-----	Feb. 19	Unknown	*300	8.50	4.82	1.469

Minimum daily, 0.01 ft^3/s (0.0003 m^3/s) Oct. 1-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.02	.04	.06	5.6	3.5	4.6	1.9	.73	.30	.13	.04
2	.01	.02	.04	.06	3.6	3.0	4.6	1.8	.73	.10	.13	.04
3	.01	.02	.04	.06	2.7	2.6	4.3	1.7	.64	.06	.15	.04
4	.01	.02	.04	.06	2.2	2.3	4.2	1.6	.64	.06	.14	.04
5	.01	.02	.04	.06	1.8	2.0	3.9	1.6	.64	.12	.13	.05
6	.01	.02	.04	.06	1.5	1.8	3.6	1.5	.60	.13	.13	.05
7	.01	.02	.04	.06	1.3	1.6	3.4	1.5	.60	.13	.12	.05
8	.01	.04	.05	.06	1.1	1.5	3.1	1.4	.55	.13	.11	.06
9	.01	.02	.05	.06	.93	1.4	2.9	1.4	.51	.12	.12	.05
10	.01	.02	.05	1.0	.80	10	2.9	1.4	.47	.11	.11	.06
11	.01	.02	.05	5.0	.70	1.5	2.8	1.7	.47	.10	.11	.06
12	.01	.02	.05	3.5	.61	1.2	2.6	1.6	.47	.09	.11	.05
13	.01	.02	.05	2.5	.54	1.1	2.3	1.5	.43	.24	.12	.05
14	.01	.02	.05	2.0	61	1.1	2.2	1.4	.39	.20	.58	.04
15	.01	.02	.05	5.0	104	1.0	2.2	1.5	.36	.14	.13	.04
16	.01	.02	.05	2.2	38	1.0	2.1	1.5	.34	.12	.10	.04
17	.01	.02	.05	1.3	25	1.0	2.0	1.4	.36	.10	.08	.04
18	.01	.02	.05	4.8	33	1.0	2.0	1.3	.36	.09	.07	.04
19	.01	.02	.05	8.6	78	4.0	1.9	1.3	.32	.08	.06	.04
20	.01	.02	.05	5.4	112	3.5	1.9	1.2	.32	.08	.05	.03
21	.01	.03	.05	4.6	100	3.0	1.9	1.1	.32	.11	.05	.04
22	.01	.03	.05	2.9	51	2.5	1.9	1.1	.28	.12	.05	.04
23	.01	.03	.05	1.9	24	5.0	2.0	.91	.28	.13	.05	.03
24	.01	.03	.05	1.5	15	10	2.0	.91	.28	.15	.06	.03
25	.01	.03	.05	1.1	10	6.8	2.0	.91	.24	.15	.06	.03
26	.01	.03	.06	1.0	8.0	5.9	1.9	.91	.20	.15	.05	.04
27	.01	.03	.06	.86	6.3	5.4	1.9	.86	.16	.14	.05	.04
28	.01	.03	.06	.78	5.0	5.0	1.7	.82	.15	.15	.04	.04
29	.01	.04	.06	100	4.2	4.6	2.0	.78	.14	.15	.04	.04
30	.01	.04	.06	51	---	4.3	2.2	.73	.13	.14	.04	.04
31	.01	---	.06	11	---	4.2	---	.73	---	.13	.04	---
TOTAL	.31	.74	1.54	218.48	697.88	102.8	79.0	39.96	12.11	4.02	3.21	1.28
MEAN	.010	.025	.050	7.05	24.1	3.32	2.63	1.29	.40	.13	.10	.043
MAX	.01	.04	.06	100	112	10	4.6	1.9	.73	.30	.58	.06
MIN	.01	.02	.04	.06	.54	1.0	1.7	.73	.13	.06	.04	.03
AC-FT	.6	1.5	3.1	433	1380	204	157	79	24	8.0	6.4	2.5

CAL YR 1979 TOTAL 913.44 MEAN 2.50 MAX 100 MIN .01 AC-FT 1810
WTR YR 1980 TOTAL 1161.33 MEAN 3.17 MAX 112 MIN .01 AC-FT 2300

NOTE.--No gage-height record Feb. 24 to Mar. 27.

09510200 SYCAMORE CREEK NEAR FORT MCDOWELL, AZ

LOCATION.--Lat 33°41'39", long 111°32'28", in sec.16, T.4 N., R.8 E. (unsurveyed), Maricopa County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 0.7 mi (1.1 km) southwest of Sugarloaf Mountain, 9 mi (14 km) northeast of Fort McDowell, 10 mi (16 km) upstream from mouth, and 25 mi (40 km) northeast of Scottsdale.

DRAINAGE AREA.--164 mi^2 (425 km^2).

PERIOD OF RECORD.--December 1960 to current year. Prior to Oct. 1, 1963, published as "near McDowell."

REVISED RECORDS.--WRD Ariz. 1970: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,759.33 ft (536.244 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1970, at datum 0.16 ft (0.049 m) lower.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--19 years (water years 1962-80), 31.9 ft^3/s (0.903 m^3/s), 23,100 acre-ft/yr (28.5 hm^3/yr); median of yearly mean discharges, 12 ft^3/s (0.34 m^3/s), 8,700 acre-ft/yr (11 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft^3/s (685 m^3/s) Sept. 5, 1970, gage height, 19.7 ft (6.00 m), from profile past gage, from rating curve extended above 3,600 ft^3/s (102 m^3/s) on basis of slope-area measurements at gage heights 15.0, 16.0, and 19.7 ft (4.57, 4.88, and 6.00 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 3,600 ft^3/s or 102 m^3/s as explained above) and peak discharges above base of 400 ft^3/s (11 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 12	0630	776	22.0	2.96	0.902
Jan. 19	0100	1,670	47.3	4.18	1.274
Jan. 30	0745	4,830	137	7.31	2.228
Feb. 14	1715	6,660	189	8.79	2.679
Feb. 15	1245	*10,400	295	11.42	3.481
Feb. 17	0715	2,230	63.2	4.82	1.469
Feb. 18	2030	1,590	45.0	4.07	1.241
Feb. 19	2315	8,760	248	10.33	3.149
Feb. 21	1445	5,200	147	7.62	2.323
Mar. 11	1300	846	24.0	3.07	0.936

Minimum daily, 0.51 ft^3/s (0.014 m^3/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.6	1.4	1.6	171	184	80	52	16	35	3.0	1.4
2	1.5	1.6	1.4	1.6	117	163	100	45	17	15	2.6	1.6
3	1.5	1.6	1.4	1.4	86	233	92	42	17	5.7	2.3	1.6
4	1.5	1.6	1.4	1.4	71	256	85	40	16	5.5	2.3	3.3
5	1.5	1.6	1.2	1.4	62	166	80	39	15	5.4	1.9	5.5
6	1.5	1.6	1.6	1.4	59	160	77	38	15	5.1	1.6	2.6
7	1.5	1.6	1.2	1.4	53	177	75	37	14	5.0	1.4	1.6
8	1.5	1.6	1.4	1.6	50	132	73	37	14	4.8	1.4	.89
9	1.5	2.0	1.4	1.9	46	135	72	37	13	4.6	1.2	.76
10	1.5	1.6	1.6	6.2	43	152	70	35	13	4.5	1.0	.69
11	1.5	1.6	1.6	193	40	352	68	35	13	4.3	1.1	1.2
12	1.5	1.6	1.6	362	37	198	66	36	12	4.2	.88	1.0
13	1.5	1.6	1.6	94	35	156	64	35	12	10	.82	.76
14	1.5	1.6	1.6	42	1660	120	63	33	11	7.1	6.2	1.2
15	1.5	1.6	1.6	111	4480	111	61	32	11	5.1	8.2	1.4
16	1.5	1.6	1.4	45	1380	102	60	34	10	3.6	5.0	1.2
17	1.5	1.6	2.2	32	1160	86	58	26	10	3.5	3.9	1.4
18	1.5	1.6	1.6	34	613	69	57	28	9.8	3.4	3.5	1.2
19	1.5	1.6	1.6	378	2620	137	55	26	9.4	3.2	2.9	1.0
20	1.5	1.6	1.6	129	3550	138	54	25	9.1	3.1	3.3	.76
21	1.5	1.6	1.9	100	3350	126	53	24	8.8	3.4	3.3	.63
22	2.0	1.6	1.6	83	2390	123	51	24	6.5	3.8	2.9	.52
23	1.5	1.6	1.4	53	776	156	50	23	8.2	4.2	2.9	.53
24	1.5	1.6	1.4	40	516	161	48	23	7.9	5.1	3.3	.56
25	1.5	1.6	1.2	34	383	141	50	22	7.6	4.3	1.9	.51
26	1.5	1.6	1.4	31	308	131	49	22	7.4	3.3	1.4	.64
27	1.5	1.6	1.4	26	268	128	44	21	7.1	5.7	1.9	.56
28	1.5	1.6	1.6	24	206	97	43	20	6.8	4.0	1.6	.55
29	1.5	1.6	1.4	73	180	92	45	20	6.6	4.0	1.6	.78
30	1.5	1.6	1.6	2360	---	88	52	19	6.4	3.7	1.9	.83
31	1.5	---	1.6	365	---	84	---	19	---	3.4	1.4	---
TOTAL	47.0	48.4	46.9	4648.9	24718	4534	1695	949	374.6	183.0	78.60	37.37
MEAN	1.52	1.61	1.51	150	852	146	63.2	30.6	11.2	5.90	2.54	1.25
MAX	2.0	2.0	2.2	2360	4480	352	100	52	16	35	8.2	5.5
MIN	1.5	1.6	1.2	1.4	35	69	43	19	6.4	3.1	.82	.51
AC-FT	93	96	93	9220	49030	8990	3760	1860	664	363	156	74

CAL YR 1979 TOTAL 28935.20 MEAN 79.3 MAX 2700 MIN 1.0 AC-FT 57390
WTR YR 1980 TOTAL 37520.77 MEAN 103 MAX 4480 MIN .51 AC-FT 74420

NOTE.--No gage-height record Oct. 1 to Nov. 30, and May 27 to July 25.

09511000 DIVERSIONS FOR CITY OF PHOENIX FROM SALT AND VERDE RIVERS, NEAR FORT MCDOWELL, AZ

LOCATION.--Lat 33°32'55", long 111°40'05", in NE¼ sec.6, T.2 N., R.7 E., Maricopa County, in filtration plant 0.5 mi (0.8 km) west of confluence of Salt and Verde Rivers, and 6 mi (10 km) south of Fort McDowell.

PERIOD OF RECORD.--February 1922 to current year (monthly diversions only). Prior to October 1950 published as Diversion for city of Phoenix from Verde River, at McDowell, and October 1950 to September 1960 as Diversion for city of Phoenix from Salt and Verde Rivers, near McDowell.

GAGE.--Sparling meter. Prior to January 1929 computed on basis of records of water consumption and pumpage. January 1929 to April 1950 water-stage recorder and weir on aqueduct 2 mi (3 km) upstream.

REMARKS.--Water is diverted from infiltration galleries and shallow wells along the right bank of Verde River, in SE¼ sec.6, T.3 N., R.7 E., 0.8 mi (1.3 km) south of Fort McDowell. Since May 1950 a supplemental diversion is made by pumping from Verde River in SE¼ sec.31, T.3 N., R.7 E. Since May 6, 1954, a supplemental diversion by four pumps is made from Salt River in SE¼ sec.6, T.2 N., R.7 E., just downstream from Verde River. Water from all three sources passes through the filtration plant where total diversions, as published herein, are measured. Water is used for municipal supply of city of Phoenix, and is carried about 25 mi (40 km) by pipeline from the filtration plant. Negligible amount of transmission loss occurs.

COOPERATION.--Records collected by city of Phoenix and furnished by Salt River Valley Water Users' Association.

REVISIONS.--WSP 1926: 1956-60.

MONTHLY DIVERSIONS, IN ACRE-FEET, OCTOBER 1975 TO SEPTEMBER 1980

Month	1975-76	1976-77	1977-78	1978-79	1979-80
October	3,930	3,460	2,920	3,110	3,520
November	3,810	3,470	2,340	3,430	3,410
December	3,120	3,000	1,540	2,960	3,050
CAL YR	46,520	36,690	31,840	32,470	36,920
January	2,030	1,700	976	2,130	2,510
February	1,780	2,000	851	2,160	1,330
March	2,390	2,140	1,820	2,610	602
April	3,160	3,240	2,600	3,290	1,690
May	3,540	3,510	3,430	3,110	3,570
June	3,500	2,890	3,320	3,160	3,500
July	3,450	3,170	3,340	3,490	3,580
August	3,610	3,330	3,320	3,530	3,660
September	3,300	3,060	3,310	3,460	3,460
WTR YR	37,620	34,970	29,770	36,440	33,880

09511300 VERDE RIVER NEAR SCOTTSDALE, AZ

LOCATION.--Lat 33°34'52", long 111°40'12", in NE¼ sec.30, T.3 N., R.7 E., Maricopa County, Hydrologic Unit 15060203, on pier near left bank on downstream side of bridge on State Highway 87, in Fort McDowell Indian Reservation, 2.5 mi (4.0 km) upstream from mouth, 3.8 mi (6.1 km) downstream from Fort McDowell, and 16 mi (26 km) northeast of Scottsdale.

DRAINAGE AREA.--6,600 mi^2 (17,090 km^2), approximately.

PERIOD OF RECORD.--February 1961 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,351.35 ft (411.891 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated by Bartlett and Horseshoe Reservoirs (see sta 09509500) except during periods of spill or floodflow below Bartlett Dam. About 12,500 acres (50.6 km^2) above reservoirs are irrigated by surface water and ground water. Below reservoirs water is diverted for municipal supply of city of Phoenix, and for irrigation of an undetermined acreage in Fort McDowell Indian Reservation. Remainder (except during infrequent period of extreme flooding) is diverted at Granite Reef Dam on Salt River, 6 mi (10 km) downstream, for irrigation in Salt River Valley and for municipal use by the city of Phoenix.

AVERAGE DISCHARGE.--19 years, 680 ft^3/s (19.26 m^3/s), 492,700 acre-ft/yr (607 hm^3/yr); median of yearly mean discharges, 480 ft^3/s (13.6 m^3/s), 348,000 acre-ft/yr (429 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98,000 ft^3/s (2,775 m^3/s) Feb. 16, 1980, on basis of flood routing, gage height not determined; no flow Nov. 8-19, 1961, June 4-22, 1970, Mar. 20-22, 1971, Apr. 2-15, 1974, Sept. 18-24, 1976, May 17-June 11, 1977, Oct. 4 to Nov. 10, 1978, Sept. 10-30, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 98,000 ft^3/s (2,775 m^3/s) Feb. 16, on basis of flood routing, gage height, not determined; no flow Sept. 10-30.

REVISIONS.--Revised daily discharges, in cubic feet per second, are given below. These figures supersede those published in the report for 1979.

Sept. 15, 1979...	183	Sept. 23, 1979...	47
16, ...	98	24, ...	38
17, ...	98	25, ...	22
18, ...	115	26, ...	24
19, ...	74	27, ...	21
20, ...	52	28, ...	25
21, ...	45	29, ...	30
22, ...	52	30, ...	35

	TOTAL	MEAN	MAX	MIN	AC-FT
September 1979	8,544.	285	846	21.	16,950
Cal Yr 1979	491,911.00	1,348	25,600	8.0	975,700
Wtr Yr 1979	592,399.63	1,623	61,200	.00	1,175,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	312	419	407	4400	2890	1100	999	1240	1200	1500	680
2	33	413	431	395	3200	2870	1100	999	700	675	1440	671
3	35	419	425	425	3050	3300	1070	999	630	670	1400	813
4	35	425	407	505	1750	2500	942	953	720	590	1410	886
5	35	395	413	597	286	1160	1080	684	787	560	1400	915
6	37	413	407	557	202	660	1100	310	836	490	1480	774
7	36	378	413	505	173	290	1100	470	797	520	1460	676
8	36	383	395	542	154	360	1250	640	740	580	1440	401
9	36	334	410	484	143	1070	2140	450	806	680	1540	1.5
10	33	329	420	470	134	1650	2190	290	836	836	1480	.00
11	27	605	490	419	125	2200	2190	290	1110	888	1250	.00
12	22	730	520	319	114	1850	2190	350	1300	857	1120	.00
13	19	964	490	206	498	1800	2190	390	1440	749	1400	.00
14	15	920	419	217	10500	1700	1810	407	1250	561	1360	.00
15	13	787	407	203	29000	1640	605	477	1250	665	1040	.00
16	11	648	505	273	75000	1520	542	491	1490	711	880	.00
17	10	444	768	355	25000	1720	477	505	3100	857	830	.00
18	10	451	867	444	43000	1840	573	425	1450	931	860	.00
19	10	444	1080	477	32500	1920	976	419	1410	888	760	.00
20	9.9	401	1070	413	38000	1920	1010	444	1380	816	809	.00
21	9.9	444	1100	366	40900	2020	1010	600	1330	1190	1000	.00
22	9.8	324	857	260	29800	2110	1010	600	1260	1950	1140	.00
23	9.8	372	768	252	11700	2140	931	573	1350	1670	1060	.00
24	9.6	431	631	300	18500	2170	484	573	1380	1630	982	.00
25	9.4	438	491	345	16300	2210	505	573	1410	1570	947	.00
26	9.3	340	758	378	4500	2240	527	550	1500	1530	947	.00
27	9.0	413	1070	340	3190	1570	740	550	1490	1340	1020	.00
28	8.8	383	1210	329	2920	702	797	610	1490	1170	992	.00
29	8.5	438	1190	334	2890	1080	758	860	1500	1430	964	.00
30	8.0	431	1030	5480	---	1110	987	1270	1520	1480	826	.00
31	40	---	777	7690	---	1100	---	1320	---	1580	691	---
TOTAL	627.0	14209	20638	24287	397929	53312	33384	19080	37502	31264	35468	5817.50
MEAN	20.2	474	666	783	13720	1720	1113	615	1250	1009	1144	194
MAX	40	964	1210	7690	75000	3300	2190	1320	3100	1950	1540	915
MIN	8.0	312	395	203	114	290	477	290	630	490	691	.00
AC-FT	1240	28180	40940	48170	789300	105700	66220	37850	74390	62010	70350	11540

CAL YR 1979 TOTAL 491911.00 MEAN 1348 MAX 25600 MIN 8.0 AC-FT 975700
WTR YR 1980 TOTAL 673517.50 MEAN 1840 MAX 75000 MIN .00 AC-FT 1336000

NOTE.--No gage-height record Feb. 15 to Mar. 10.

09512000 DIVERSIONS FROM SALT RIVER AT GRANITE REEF DAM, AZ

LOCATION.--Granite Reef Dam, lat 33°30'57", long 111°41'27", in NW¼SE¼ sec.13, T.2 N., R.6 E., Maricopa County, on Salt River, 3.4 mi (5.5 km) downstream from Verde River, and 8 mi (13 km) south of Fort McDowell.

PERIOD OF RECORD.--January 1913 to current year (monthly discharge only).

GAGE.--Water-stage recorders on Arizona and South Canals, 2,000 ft (610 m) and 1,800 ft (550 m), respectively, downstream from headgates at Granite Reef Dam. In early years staff gages at about the same sites. During period 1930-36 discharge computed using Clausen-Pierce hydraulic weir rule at submerged weirs.

REMARKS.--Arizona Canal diverts at the right end, and South Canal at the left end, of Granite Reef Dam. Records given herein are those of discharge at the two gaging stations less return flow to Salt River by wasteways between stations and irrigated lands. Return flow computed from records of rated gates or weirs in the wasteways. City of Phoenix diverts water for municipal use from Arizona Canal (see sta 09512050), which is included in records published herein. Remainder of water is used for irrigation in Salt River Valley. Flow at Granite Reef Dam is regulated by four dams on Salt River and two on Verde River (see sta 09501000 and 09509500); combined capacity of six reservoirs, 2,073,000 acre-ft.

COOPERATION.--Records furnished by Salt River Valley Water Users' Association.

MONTHLY DIVERSIONS, IN ACRE-FEET, OCTOBER 1975 TO SEPTEMBER 1980

Month	1975-76	1976-77	1977-78	1978-79	1979-80
October	31,530	32,740	27,730	46,460	52,890
November	28,370	23,770	17,110	16,620	28,860
December	25,380	30,690	19,140	26,120	39,140
CAL YR	803,400	813,100	777,300	927,700	1,201,000
January	35,530	17,460	10,340	27,060	25,550
February	38,630	34,540	10,170	41,130	54,080
March	66,870	68,400	44,700	84,450	96,940
April	68,690	70,320	118,100	141,200	163,400
May	72,940	74,890	121,800	167,200	164,500
June	104,800	124,600	146,400	165,800	175,300
July	133,500	135,800	151,300	182,700	198,400
August	128,000	120,700	135,200	153,700	182,700
September	76,950	66,620	100,500	116,900	121,400
WTR YR	811,200	800,500	902,500	1,169,000	1,303,000

09512050 DIVERSIONS FOR CITY OF PHOENIX FROM ARIZONA CANAL, AT PHOENIX, AZ

LOCATION.--Squaw Peak filtration plant: lat 33°31'52", long 112°01'54", in SE¼ sec.10, T.2 N., R.3 E., Maricopa County, 6 mi (10 km) north of Phoenix city hall, and 24 mi (39 km) downstream from Granite Reef Dam. Deer Valley filtration plant: lat 33°34'10", long 112°07'26", in SE¼ sec.26, T.3 N., R.2 E., Maricopa County, 9 mi (14 km) north of Phoenix city hall, and 31 mi (50 km) downstream from Granite Reef Dam.

PERIOD OF RECORD (monthly diversions only).--Squaw Peak filtration plant: June 1954 to current year. Deer Valley filtration plant: October 1964 to current year.

GAGE.--Sparling meters.

REMARKS.--Records published herein are combined diversions at Squaw Peak filtration plant and at Deer Valley filtration plant. Diversions from Arizona Canal at Squaw Peak filtration plant began June 3, 1954; water is used for municipal supply of city of Phoenix. Diversions from Arizona Canal at Deer Valley filtration plant began Oct. 21, 1964; water is used for municipal supply in Deer Valley. Arizona Canal diverts at right end of Granite Reef Dam on Salt River. See sta 09512000 for diversions at Granite Reef Dam.

COOPERATION.--Records collected by city of Phoenix and furnished by Salt River Valley Water Users' Association.

REVISIONS.--WSP 1926: 1954-60.

CORRECTION.--Diversions for July 1970 and water year 1970, published in WRD Ariz. 1970 and WSP 2126, were in error; correct values are 12,380 and 69,970 acre-ft, respectively.

MONTHLY DIVERSIONS, IN ACRE-FEET, OCTOBER 1975 TO SEPTEMBER 1980

Month	1975-76	1976-77	1977-78	1978-79	1979-80
October	200	7,440	9,600	10,400	12,240
November	1,760	2,760	3,330	2,770	3,690
December	366	785	1,300	669	0
CAL YR	63,150	69,820	86,390	89,310	94,410
January	0	2,550	3,020	1,910	1,810
February	814	2,790	2,700	3,340	2,090
March	3,880	3,440	1,100	4,960	6,460
April	4,560	6,680	5,760	5,060	8,970
May	7,620	8,030	10,930	10,410	11,060
June	10,860	12,030	14,100	13,680	15,020
July	11,590	13,140	13,840	14,960	16,170
August	10,790	12,590	12,120	11,260	15,720
September	8,720	10,910	11,900	12,900	13,640
WTR YR	61,160	83,140	89,700	92,320	106,870

09512100 INDIAN BEND WASH AT SCOTTSDALE, AZ

LOCATION.--Lat 33°32'19", long 111°54'57", in SW¼SE¼ sec.2, T.2 N., R.4 E., Maricopa County, Hydrologic Unit 15060106, on upstream side of ford on Indian Bend Road, in Scottsdale.

DRAINAGE AREA.--62 mi^2 (161 km^2) approximately, since October 1975. Prior to October 1975, 139 mi^2 (360 km^2); reduction caused by cutoff of upper portion of basin by diversion canal and detention dike (also see REMARKS).

PERIOD OF RECORD.--January 1961 to current year. Prior to October 1972 published as "near Scottsdale."

REVISED RECORDS.--WRD Ariz., 1972: 1968, 1970 (revised figures of daily discharge for water years 1968 and 1970 were inadvertently omitted from WSP 2126).

GAGE.--Water-stage recorder. Datum of gage is 1,280.29 ft (390.232 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Natural flow of wash affected by urbanization and partly regulated by artificial lakes upstream. Upper portion of basin (about 77 mi^2 or 199 km^2) cut off by diversion canal and detention dike in October 1975. Release of excess flood waters may occasionally pass canal into lower portion of basin.

AVERAGE DISCHARGE.--14 years (water years 1962-75), 2.67 ft^3/s (0.0756 m^3/s), 1,930 acre-ft/yr (2.38 hm^3/yr), representing flow from 139 mi^2 (360 km^2); median of yearly mean discharges, 0.30 ft^3/s (0.008 m^3/s), 220 acre-ft/yr (0.27 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft^3/s (595 m^3/s) June 22, 1972, gage height, 4.90 ft (1.494 m), from rating curve extended above 7,000 ft^3/s (200 m^3/s) on basis of partial discharge measurement at gage height 4.2 ft (1.28 m) and slope-conveyence method at gage height 4.90 ft (1.494 m); no flow for most of time each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 20 ft^3/s (0.6 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 12	0900	22	0.62	1.15	0.351	Feb. 20	0045	125	3.54	1.38	0.421
Jan. 18	2400	84	2.38	1.28	0.390	Mar. 12	2200	20	0.57	1.13	0.344
Feb. 15	2030	*125	3.54	1.38	0.421	May 15	0130	99	2.80	1.32	0.402

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	2.6	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	13	.00	3.2	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	3.7	.00	.90	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.0	11	.70	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.50	46	.50	.00	42	.00	.00	.00	.00
16	.00	.00	.00	.00	45	.20	.00	1.0	.00	.00	.00	.00
17	.00	.00	.00	.00	48	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	8.6	13	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	45	29	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	3.7	57	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	1.3	13	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	1.0	2.9	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.80	1.0	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.50	.90	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.40	.50	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.20	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	80.00	267.30	8.10	.00	43.00	.00	.00	.00	.00
MEAN	.000	.000	.000	2.58	9.22	.26	.000	1.39	.000	.000	.000	.000
MAX	.00	.00	.00	45	57	3.2	.00	42	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	159	530	16	.00	85	.00	.00	.00	.00

CAL YR 1979 TOTAL 255.50 MEAN .70 MAX 75 MIN .00 AC-FT 507
WTR YR 1980 TOTAL 398.40 MEAN 1.09 MAX 57 MIN .00 AC-FT 790

NOTE.--No gage-height record Oct. 13 to Jan. 2.

09512170 SALT RIVER AT JOINTHEAD DAM AT PHOENIX, AZ

LOCATION.--Lat 33°26'25", long 111°58'22", in SW¼NE¼SW¼ sec.8, T.1 N., R.4 E., Maricopa County, Hydrologic Unit 15060106, on right upstream wingwall of Jointhead diversion dam, 1,600 ft (488 m) upstream from 48th Street, in Phoenix.

DRAINAGE AREA.--13,225 mi^2 (34,253 km^2).

PERIOD OF RECORD.--October 1978 to September 1979 (annual maximum only), October 1979 to September 1980. Prior to October 1978, station operated by Salt River Project during periods of flow only.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 1,150.00 ft (344.424 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow regulated by upstream reservoirs. Entire flow of Salt River (except during periods of extreme flooding) is diverted at Granite Reef Dam, 19 mi (31 km) upstream, for irrigation in Salt River Valley and for municipal use by the city of Phoenix.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 170,000 ft^3/s (4,810 m^3/s) Feb. 16, 1980, gage height, 9.30 ft (2.835 m); no flow for most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1871, 300,000 ft^3/s (8,500 m^3/s), in February 1891.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 170,000 ft^3/s (4,810 m^3/s) Feb. 16, gage height, 9.30 ft (2.835 m); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	7170	12000	1500	1000	.00	.00	.00	.00
2	.00	.00	.00	.00	6860	12000	1700	2000	.00	.00	.00	.00
3	.00	.00	.00	.00	6710	12000	1900	2000	.00	.00	.00	.00
4	.00	.00	.00	.00	5980	11000	2100	1900	.00	.00	.00	.00
5	.00	.00	.00	.00	3910	8000	2000	1000	.00	.00	.00	.00
6	.00	.00	.00	.00	3730	2000	2300	300	.00	.00	.00	.00
7	.00	.00	.00	.00	3700	500	2200	100	.00	.00	.00	.00
8	.00	.00	.00	.00	3640	200	2200	50	.00	.00	.00	.00
9	.00	.00	.00	.00	2700	100	2000	50	.00	.00	.00	.00
10	.00	.00	.00	.00	162	50	1900	50	.00	.00	.00	.00
11	.00	.00	.00	.00	5.0	.00	1900	50	.00	.00	.00	.00
12	.00	.00	.00	.00	.0	.00	1900	50	.00	.00	.00	.00
13	.00	.00	.00	.00	.0	.00	1900	50	.00	.00	.00	.00
14	.00	.00	.00	.00	5930	.00	1900	50	.00	.00	.00	.00
15	.00	.00	.00	.00	63100	.00	1500	10	.00	.00	.00	.00
16	.00	.00	.00	.00	132000	.00	900	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	80300	.00	700	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	85900	.00	600	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	71900	.00	600	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	70000	.00	900	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	78000	.00	900	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	87000	.00	900	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	53000	.00	900	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	49000	.00	900	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	38000	.00	700	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	23000	.00	600	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	16000	800	500	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	16000	1500	500	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	13000	1400	500	.00	.00	.00	.00	.00
30	.00	.00	.00	282	---	1500	600	.00	.00	.00	.00	.00
31	.00	---	.00	6190	---	1600	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	6472.00	926697.0	64650.00	39600	8660.00	.00	.00	.00	.00
MEAN	.000	.000	.000	209	31960	2085	1320	279	.000	.000	.000	.000
MAX	.00	.00	.00	6190	132000	12000	2300	2000	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	500	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	12840	1838000	128200	78550	17180	.00	.00	.00	.00

CAL YR 1979	TOTAL	842537.00	MEAN	2308	MAX	85400	MIN	.00	AC-FT	1671000
WTR YR 1980	TOTAL	1046079.00	MEAN	2856	MAX	132000	MIN	.00	AC-FT	2075000

09512200 SALT RIVER TRIBUTARY IN SOUTH MOUNTAIN PARK, AT PHOENIX, AZ

LOCATION.--Lat 33°20'49", long 112°05'03", in NE¼NE¼ sec.18, T.1 S., R.3 E., Maricopa County, Hydrologic Unit 15060106, in South Mountain Park, on left bank 6.5 mi (10.5 km) south of Phoenix main post office.

DRAINAGE AREA.--1.75 mi^2 (4.53 km^2).

PERIOD OF RECORD.--January 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,405.20 ft (428.305 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No storage or diversion above station.

AVERAGE DISCHARGE.--19 years, 0.010 ft^3/s (0.0003 m^3/s), 7.2 acre-ft/yr (8,880 m^3/yr); median of yearly mean discharges, 0.002 ft^3/s (0.0001 m^3/s), 1 acre-ft/yr (1,200 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 670 ft^3/s (19.0 m^3/s) Sept. 4, 1965, gage height, 9.70 ft (2.957 m), from floodmarks, from rating curve extended above 31 ft^3/s (0.88 m^3/s) on basis of measurements of peak flow through culvert at gage heights 5.80, 9.09, and 9.52 ft (1.768, 2.771, and 2.902 m); no flow for most of time each year.

EXTREMES FOR CURRENT YEAR.--No flow for entire year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1979 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1980 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00

09512400 CAVE CREEK AT PHOENIX, AZ

LOCATION.--Lat 33°34'56", long 112°06'43", in SW¼ sec.24, T.3 N., R.2 E., Maricopa County, Hydrologic Unit 15060106, on downstream side of bridge at Peoria Avenue in Phoenix, 0.7 mi (1.1 km) upstream from Arizona Canal.

DRAINAGE AREA.--252 mi^2 (653 km^2).

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,236.37 ft (376.846 m) National Geodetic Vertical Datum of 1929 (from Salt River Valley Water Users' Association temporary bench mark). Prior to July 31, 1974, at site 60 ft (18 m) upstream at datum 6.93 ft (2.112 m) higher.

REMARKS.--Records fair. Peak flow regulated from 161 mi^2 (417 km^2) by Cave Creek Dam 12 mi (19 km) upstream. Flow probably affected by urbanization.

AVERAGE DISCHARGE.--23 years, 4.32 ft^3/s (0.122 m^3/s), 3,130 acre-ft/yr (3.86 hm^3/yr); median of yearly mean discharges, 1.4 ft^3/s (0.04 m^3/s), 1,000 acre-ft/yr (1.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,080 ft^3/s (116 m^3/s)—including 345 ft^3/s (9.77 m^3/s) released from Cave Creek Dam—Dec. 19, 1967, gage height, 11.23 ft (3.423 m), present datum; no flow for most of time each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 326 ft^3/s (9.23 m^3/s) Feb. 19, gage height, 4.46 ft (1.359 m); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	18	111	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	1.7	90	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	73	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	4.5	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	73	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	86	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	125	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	119	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	142	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	131	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	125	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	127	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	134	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	138	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	144	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	148	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	148	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	140	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	127	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	1.9	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	23	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	29.40	1926.70	274.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.95	66.4	8.84	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	23	148	111	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	58	3820	543	.00	.00	.00	.00	.00	.00

CAL YR 1979 TOTAL 1354.30 MEAN 3.71 MAX 250 MIN .00 AC-FT 2690
WTR YR 1980 TOTAL 2230.10 MEAN 6.09 MAX 148 MIN .00 AC-FT 4420

NOTE.--No gage-height record May 1 to June 5.

09512500 AGUA FRIA RIVER NEAR MAYER, AZ

LOCATION.--Lat 34°18'55", long 112°03'48", in NW¼SE¼ sec.20, T.11 N., R.3 E., Yavapai County, Hydrologic Unit 15070102, on left bank at Sycamore damsite, 700 ft (210 m) downstream from Big Bug Creek and 12 mi (19 km) southeast of Mayer.

DRAINAGE AREA.--588 mi^2 (1,523 km^2).

PERIOD OF RECORD.--January 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,434 ft (1,046.7 m), levels by Maricopa County Municipal Water Conservation District No. 1.

REMARKS.--Records poor. Diversions above station for mining and irrigation of about 600 acres (2.4 km^2). Perry Canal, which previously headed 300 ft (90 m) above the gage, was washed out on July 11, 1977, and was not rebuilt.

AVERAGE DISCHARGE.--40 years, 21.5 ft^3/s (0.609 m^3/s), 15,580 acre-ft/yr (19.2 hm^3/yr); median of yearly mean discharges, 12 ft^3/s (0.34 m^3/s), 8,700 acre-ft/yr (11 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft^3/s (937 m^3/s) Feb. 19, 1980, from rating curve extended above 3,400 ft^3/s (96 m^3/s) on basis of slope-area measurement of peak flow, gage height, 15.76 ft (4.804 m), from mean of surge, inside high-water mark 16.03 ft (4.886 m), floodmark 18.97 ft (5.782 m); negligible flow at times during the summer months in most previous years when entire flow was diverted to Perry Canal above station and flow past gage was seepage only.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 3,400 ft^3/s or 96 m^3/s on basis of slope-area measurement of peak flow) and peak discharges above base of 2,300 ft^3/s (65 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0300	8,020	227	8.65	2.637
Feb. 14	1830	13,900	394	10.79	3.289
Feb. 19	2200	*33,100	937	a15.76	4.804

Minimum daily, 0.90 ft^3/s (0.025 m^3/s), Oct. 1-4, 7-17.
a From mean of surge, inside high-water mark 16.03 ft (4.886 m), floodmark, 18.97 ft (5.782 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	1.8	3.9	4.8	330	130	48	25	8.8	11	2.1	2.5
2	.90	1.8	3.9	4.5	260	130	60	25	8.3	2.8	4.5	2.5
3	.90	1.8	3.9	4.2	210	120	52	24	8.8	2.1	4.5	2.5
4	.90	2.0	3.9	4.2	170	120	46	20	8.8	2.6	4.2	2.5
5	1.0	2.0	3.9	4.2	130	120	44	18	6.8	2.6	3.7	2.5
6	1.0	1.8	3.9	4.2	100	120	46	18	7.8	2.3	3.6	2.5
7	.90	2.0	3.9	4.2	75	110	41	17	7.3	2.1	3.0	2.5
8	.90	2.1	3.9	4.2	60	110	39	16	6.8	2.3	2.8	2.5
9	.90	2.1	3.9	6.0	40	110	38	16	6.4	2.1	2.8	2.5
10	.90	2.3	3.9	18	30	100	38	16	5.6	2.1	2.6	2.5
11	.90	2.6	6.0	69	20	100	32	15	5.2	2.5	2.6	2.5
12	.90	2.8	6.0	72	15	100	33	15	5.0	2.6	2.6	2.5
13	.90	3.0	5.6	22	11	85	29	14	5.2	5.2	4.5	2.5
14	.90	3.0	5.6	14	5380	77	28	15	4.2	3.9	4.0	2.5
15	.90	3.3	5.6	46	7260	72	27	17	3.8	2.3	3.5	2.5
16	.90	3.3	5.2	22	1000	64	25	20	4.5	2.1	3.0	2.5
17	.90	3.6	5.2	12	1200	58	21	15	3.8	2.0	3.0	2.5
18	1.0	3.6	5.2	186	500	56	22	14	4.2	2.0	3.0	2.5
19	1.1	3.9	5.2	201	5050	62	22	13	4.5	1.8	2.5	2.5
20	1.2	3.6	5.2	91	7290	58	21	13	5.2	1.6	2.5	2.5
21	1.2	3.6	5.2	42	2650	52	21	13	6.0	2.6	2.5	2.5
22	1.2	3.6	6.0	22	1040	60	19	11	6.0	2.6	2.5	2.5
23	1.2	3.6	6.0	13	400	60	20	11	4.8	2.3	2.5	2.5
24	1.3	3.6	5.6	9.4	240	56	22	11	3.8	22	72	2.5
25	1.5	3.6	5.2	7.8	170	56	22	11	3.6	9.4	34	2.5
26	1.6	3.6	6.0	6.8	150	60	22	11	5.2	6.4	2.6	2.2
27	1.6	3.6	6.4	6.0	140	58	21	11	6.0	4.2	2.5	2.2
28	1.6	3.6	6.0	5.2	140	56	21	11	7.8	2.8	2.5	2.2
29	1.6	3.6	5.2	733	140	52	25	9.4	7.3	2.3	2.5	2.2
30	1.6	3.9	5.2	3600	---	44	36	9.4	59	2.1	2.5	2.1
31	1.6	---	5.2	490	---	41	---	9.4	---	2.6	2.5	---
TOTAL	34.80	88.7	155.8	5728.7	34201	2497	941	464.2	230.5	117.3	193.6	73.4
MEAN	1.12	2.96	5.03	185	1179	80.5	31.4	15.0	7.68	3.78	6.25	2.45
MAX	1.6	3.9	6.4	3600	7290	130	60	25	59	22	72	2.5
MIN	.90	1.8	3.9	4.2	11	41	19	9.4	3.6	1.6	2.1	2.1
AC-FT	69	176	309	11360	67840	4950	1870	921	457	233	384	146

CAL YR 1979 TOTAL 21177.90 MEAN 58.0 MAX 4900 MIN .80 AC-FT 42010
WTR YR 1980 TOTAL 44726.00 MEAN 122 MAX 7290 MIN .90 AC-FT 88710

09512600 TURKEY CREEK NEAR CLEATOR, AZ

LOCATION.--Lat 34°16'56", long 112°12'25", in SW¼SW¼SE¼ sec.36, T.11 N., R.1 E. (unsurveyed), Yavapi County, Hydrologic Unit 15070102, in Prescott National Forest, on right bank 0.7 mi (1.1 km) upstream from Forest Route 259, 1.5 mi (2.4 km) east of Cleator, and 9.5 mi (15.0 km) south of Mayer.

DRAINAGE AREA.--89.40 mi^2 (232 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 3,140 ft (957 m) from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,230 ft^3/s (148 m^3/s) Feb. 19, 1980, gage height, 11.51 ft (3.508 m), from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement of peak flow; no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 5, 1970, reached a stage of about 16 ft (4.9 m), from floodmarks, discharge, about 9,000 ft^3/s (255 m^3/s), from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement at gage height 11.51 ft (3.508 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 1,500 ft^3/s or 42.5 m^3/s on basis of slope-area measurement of peak flow) and peak discharges above base of 200 ft^3/s (5.66 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1800	340	9.63	3.24	0.988	Feb. 19	2200	*5,230	148	11.51	3.508
Jan. 30	0545	1,580	44.7	5.93	1.807	Aug. 12	1945	400	11.3	3.37	1.027
Feb. 15	0300	3,070	86.9	8.41	2.563	Aug. 24	1630	1,260	35.7	5.31	1.618

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	168	134	36	21	4.9	2.6	.30	.00
2	.00	.00	.00	.00	161	112	35	18	5.2	1.7	13	.00
3	.00	.00	.00	.00	116	112	34	16	4.9	.84	11	.00
4	.00	.00	.00	.00	99	109	33	15	4.5	.44	3.1	.00
5	.00	.00	.00	.00	92	86	32	15	4.2	.30	1.4	.00
6	.00	.00	.00	.00	85	79	31	14	4.2	.19	.72	.00
7	.00	.00	.00	.00	77	92	30	13	3.9	.24	.44	.00
8	.00	.00	.00	.00	70	71	29	12	3.3	.30	.53	.00
9	.00	.00	.00	.00	63	61	28	12	3.1	.44	.44	.00
10	.00	.00	.00	.00	61	55	33	11	2.6	.62	.30	.00
11	.00	.00	.00	122	59	68	32	11	2.3	.72	.30	.00
12	.00	.00	.00	122	59	72	30	12	2.3	.96	44	.00
13	.00	.00	.00	41	65	69	29	10	2.3	9.6	8.1	.00
14	.00	.00	.00	15	732	66	26	10	2.1	.44	.84	.00
15	.00	.00	.00	20	1670	64	26	11	1.9	.14	.30	.00
16	.00	.00	.00	12	695	62	25	14	1.7	.14	.09	.00
17	.00	.00	.00	5.2	580	60	24	10	1.4	.12	.06	.00
18	.00	.00	.00	21	669	57	24	9.6	1.2	.14	.03	.00
19	.00	.00	.00	31	836	55	24	9.1	1.1	.14	.02	.00
20	.00	.00	.00	24	1680	53	23	9.1	.84	.15	.00	.00
21	.00	.00	.00	17	1240	52	22	8.1	.72	.24	.00	.00
22	.00	.00	.00	11	636	50	20	7.2	.53	.37	.00	.00
23	.00	.00	.00	6.2	535	48	20	7.2	.44	.24	.00	.00
24	.00	.00	.00	3.7	390	46	20	7.2	.37	.62	44	.00
25	.00	.00	.00	2.8	301	45	19	7.2	.24	.62	.00	.00
26	.00	.00	.00	1.7	257	44	16	6.8	.19	.62	.30	.00
27	.00	.00	.00	1.2	220	42	16	6.0	.15	.53	.00	.00
28	.00	.00	.00	1.0	187	41	15	6.0	.14	.53	.00	.00
29	.00	.00	.00	72	165	40	21	6.0	.12	2.3	.00	.00
30	.00	.00	.00	875	---	38	28	6.0	.14	.84	.00	.00
31	.00	---	.00	210	---	37	---	4.9	---	.30	.00	---
TOTAL	.00	.00	.00	1614.80	12168	2020	781	325.4	60.98	27.43	129.27	.00
MEAN	.000	.000	.000	52.1	420	65.2	26.0	10.5	2.03	.88	4.17	.000
MAX	.00	.00	.00	875	1680	134	36	21	5.2	9.6	44	.00
MIN	.00	.00	.00	.00	59	37	15	4.9	.12	.12	.00	.00
AC-FT	.00	.00	.00	3200	24140	4010	1550	645	121	54	256	.00

WTR YR 1980 TOTAL 17126.88 MEAN 46.8 MAX 1680 MIN .00 AC-FT 33970

09512600 TURKEY CREEK NEAR CLEATOR, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NON-CAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
JAN											
31...	1130	198	196	8.0	7.0	84	8.6	80	12	20	7.3
FEB											
17...	0400	431	227	7.7	8.0	140	--	96	16	25	8.2
17...	1000	544	199	7.6	8.0	150	--	82	15	21	7.1
17...	1600	458	201	7.5	12.0	110	--	85	18	22	7.3
18...	1430	773	156	7.8	10.0	360	--	68	5	17	6.2
18...	1800	1070	141	7.9	8.0	600	--	59	5	15	5.2
19...	2030	1870	190	7.9	12.0	780	--	76	15	20	6.4
20...	0030	3990	164	8.0	8.5	920	--	65	0	17	5.5
20...	0600	2120	164	8.1	7.5	560	--	70	2	18	6.0
JUL											
13...	0215	283	372	7.3	22.0	700	--	130	94	37	8.6
13...	1015	4.5	674	7.1	--	21	--	270	160	67	24
AUG											
02...	1600	1.4	900	8.1	24.0	64	--	320	200	80	30
02...	2000	36	589	8.2	24.0	8.6	--	220	130	55	19

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
JAN											
31...	9.2	.4	1.3	68	22	5.1	.2	19	151	127	.21
FEB											
17...	12	.5	1.3	80	25	5.9	.2	17	160	144	.22
17...	9.7	.5	1.2	67	21	5.6	.2	16	141	123	.19
17...	10	.5	1.3	67	20	4.5	.2	17	149	123	.20
18...	6.9	.4	1.4	63	15	3.7	.3	21	120	111	.16
18...	5.5	.3	1.2	54	9.8	2.9	.2	18	105	91.0	.14
19...	8.1	.4	1.3	61	22	4.5	.2	18	127	118	.17
20...	7.0	.4	1.6	80	4.5	4.6	.2	17	116	107	.16
20...	7.0	.4	1.6	68	16	5.4	.2	19	122	115	.17
JUL											
13...	14	.5	7.3	34	90	10	.3	1.8	254	193	.32
13...	44	1.2	4.3	110	190	31	.5	17	476	445	.65
AUG											
02...	59	1.4	5.8	120	260	48	.6	23	600	579	.82
02...	30	.9	3.7	84	160	25	.5	14	379	359	.52

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)
JAN											
31...	.32	.02	.01	.02	.30	.15	.32	.16	.16	.66	.4
FEB											
17...	.21	.01	.00	.01	.37	.32	.38	.06	.32	.61	.5
17...	.20	.03	.00	.04	.56	.83	.59	.00	.83	.79	1.0
17...	.20	.03	.00	.04	.39	.23	.42	.19	.23	.63	.4
18...	.26	.13	.03	.16	2.5	.10	2.60	2.5	.13	2.9	.3
18...	.14	.09	.03	.11	1.9	.07	2.00	1.9	.10	2.2	.2
19...	.19	.12	.03	.15	4.3	.13	4.40	4.2	.16	4.6	.3
20...	.26	.11	.04	.13	5.7	.14	5.80	5.6	.18	6.1	.4
20...	.26	.07	.03	.08	1.6	.22	1.70	1.5	.25	2.0	.5
JUL											
13...	.89	.18	.24	.22	5.0	1.5	5.20	3.5	1.7	5.8	2.6
13...	.20	.03	.00	.04	1.2	.94	1.20	.26	.94	1.6	1.1
AUG											
02...	.15	.12	.00	.15	1.9	1.3	2.00	.70	1.3	2.3	1.5
02...	.26	.25	.00	.30	3.8	1.0	4.00	3.0	1.0	4.5	1.3

09512600 TURKEY CREEK NEAR CLEATOR, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
JAN											
31...	2.9	.14	.43	.06	3	2	200	200	0	0	10
FEB											
17...	2.7	.61	1.9	.02	--	--	--	--	--	--	--
17...	3.5	.73	2.2	.03	--	--	--	--	--	--	--
17...	2.8	.38	1.2	.03	--	--	--	--	--	--	--
18...	13	4.50	14	.05	--	--	--	--	--	--	--
18...	9.6	2.40	7.4	.15	--	--	--	--	--	--	--
19...	20	4.50	14	.09	--	--	--	--	--	--	--
20...	27	3.40	10	.05	--	--	--	--	--	--	--
20...	8.8	2.60	8.0	.05	--	--	--	--	--	--	--
JUL											
13...	25	2.60	8.0	.41	--	--	--	--	--	--	--
13...	7.1	1.40	4.3	.15	--	--	--	--	--	--	--
AUG											
02...	10	.33	1.0	.06	--	--	--	--	--	--	--
02...	20	.67	2.1	.04	--	--	--	--	--	--	--

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN											
31...	0	10	0	38	5	11000	50	11	0	390	10
FEB											
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
JUL											
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
AUG											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	2,4-D, DIS-SOLVED (UG/L)	2,4,5-T DIS-SOLVED (UG/L)	SILVEX, DIS-SOLVED (UG/L)
JAN											
31...	2.7	.2	0	0	0	0	20	10	.00	.00	.00
FEB											
17...	--	--	--	--	--	--	--	--	.00	.00	.00
17...	--	--	--	--	--	--	--	--	.00	.00	.00
17...	--	--	--	--	--	--	--	--	.00	.00	.00
18...	--	--	--	--	--	--	--	--	.00	.00	.00
18...	--	--	--	--	--	--	--	--	.00	.00	.00
19...	--	--	--	--	--	--	--	--	.00	.00	.00
20...	--	--	--	--	--	--	--	--	.00	.00	.00
20...	--	--	--	--	--	--	--	--	.00	.00	.00
JUL											
13...	--	--	--	--	--	--	--	--	.00	.00	.00
13...	--	--	--	--	--	--	--	--	.00	.00	.00
AUG											
02...	--	--	--	--	--	--	--	--	.00	.00	.00
02...	--	--	--	--	--	--	--	--	.00	.00	.00

09512600 TURKEY CREEK NEAR CLEATOR, AZ--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)
JAN 31...	1130	.00	.0	.00	.0	.00	.0	.00	.0	.00	.0

DATE	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
JAN 31...	.00	.00	.0	.00	.00	.0	.00	.00	.0	.00

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)
JAN 31...	.0	.00	.0	.00	.00	.0	.00	.00	.00	.00

DATE	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 31...	.00	.00	.0	0	0	0	.00	.00	.00	.00

Time	Date	Picloram total (UG/L)
1/31/80	1130	0.00
2/17/80	0400	0.00
2/17/80	1000	0.00
2/17/80	1600	0.00
2/18/80	1430	0.00
2/18/80	1800	0.00
2/19/80	2030	0.00
2/20/80	0030	0.00
2/20/80	0600	0.00
7/13/80	0215	0.03
7/13/80	1015	0.10
8/ 1/80	0130	0.00
8/ 2/80	2000	0.00

09512800 AGUA FRIA RIVER NEAR ROCK SPRINGS, AZ

LOCATION.--Lat 34°00'56", long 112°10'02", in NW¼NW¼ sec.28, T.8 N., R.2 E., Yavapai County, Hydrologic Unit 15070102, on right bank 2.5 mi (4.0 km) southwest of Rock Springs and 10 mi (16 km) upstream from Lake Pleasant.

DRAINAGE AREA.--1,130 mi^2 (2,930 km^2), approximately.

PERIOD OF RECORD.--January 1970 to current year (monthly discharge only, October 1973 to September 1974). Low-flow records not equivalent prior to Oct. 1, 1974, due to spring flow in streambed between sites in use.

GAGE.--Water-stage recorder. Altitude of gage is 1,800 ft (549 m), from topographic map. Prior to Oct. 1, 1974, at site 600 ft (180 m) upstream at datum 10.00 ft (3.048 m) higher (now used as supplementary gage).

REMARKS.--Records poor.

AVERAGE DISCHARGE.--10 years, 109 ft^3/s (3.087 m^3/s), 78,970 acre-ft/yr (97.4 hm^3/yr); median of yearly mean discharges, 70 ft^3/s (1.98 m^3/s), 50,700 acre-ft/yr (62 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,500 ft^3/s (1,690 m^3/s) Feb. 19, 1980, gage height, 21.08 ft (6.425 m) recorded, 28.15 ft (8.580 m) from floodmark, from rating curve extended above 21,000 ft^3/s (595 m^3/s) on basis of slope-area measurement at gage height 27.2 ft (8.29 m); no flow at times each year prior to October 1974; since October 1974, no flow May 27 to July 12, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 21,000 ft^3/s or 595 m^3/s as explained above) and peak discharges above base of 1,800 ft^3/s (51 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	0615	10,800	306	a15.83	4.825	Feb. 17	1145	5,210	148	12.21	3.722
Feb. 15	1230	22,600	640	b19.44	5.925	Feb. 19	2400	*59,500	1,690	c21.08	6.425

Minimum daily, 1.4 ft^3/s (0.040 m^3/s) Dec. 31.
a Recorded gage height; outside floodmark 16.2 ft (4.94 m).
b Recorded gage height; outside floodmark 19.79 ft (6.032 m).
c Recorded gage height; outside floodmark 28.15 ft (8.580 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	5.9	4.4	1.5	1280	624	178	125	19	55	8.4	4.4
2	4.7	6.2	4.2	1.9	1100	529	218	114	18	25	14	4.3
3	4.7	6.6	3.9	1.9	1060	508	215	105	18	11	20	4.3
4	4.4	6.2	3.9	1.9	1010	512	192	95	18	8.4	8.0	4.2
5	3.8	5.9	3.9	1.7	941	453	191	86	17	8.2	7.8	4.1
6	3.5	5.9	3.9	1.7	867	415	185	80	17	8.0	7.6	4.0
7	3.2	6.6	3.7	1.7	809	494	178	80	16	7.8	7.4	3.9
8	3.2	8.5	3.0	1.9	745	415	160	74	16	7.6	7.3	3.8
9	3.2	8.5	3.0	5.0	691	363	148	66	15	7.4	7.1	3.7
10	3.2	8.1	3.0	381	619	329	142	59	15	7.4	7.0	3.7
11	3.3	8.9	3.1	1130	551	411	139	55	14	7.4	6.8	3.6
12	3.8	7.7	3.0	746	495	421	125	55	14	29	6.7	3.5
13	4.1	6.6	2.8	169	486	385	124	47	14	156	65	3.4
14	4.1	5.6	2.6	116	8500	361	121	42	13	15	30	3.4
15	4.1	5.6	2.5	359	14800	327	118	41	13	10	6.3	3.3
16	4.1	5.9	2.3	186	3900	311	114	50	13	8.5	6.2	3.3
17	4.4	5.9	1.9	137	3740	272	108	56	13	8.3	6.1	3.2
18	4.4	6.3	1.9	337	3180	267	102	40	12	8.1	5.9	3.1
19	4.1	6.6	1.9	940	8950	273	97	27	12	17	5.8	3.1
20	4.7	6.7	1.9	340	18700	256	90	26	12	30	5.7	3.0
21	5.6	6.3	1.9	208	8170	234	88	25	11	22	5.6	3.0
22	5.0	5.9	1.9	286	4700	220	81	25	11	71	5.5	2.9
23	4.7	6.3	1.9	336	2790	232	77	24	11	14	5.3	2.9
24	4.7	6.6	1.9	338	2220	218	79	23	11	12	5.2	2.8
25	5.3	6.3	1.7	336	1800	211	95	23	10	11	98	2.7
26	5.0	5.9	1.7	338	1430	202	91	22	10	9.5	37	2.7
27	5.3	5.3	1.7	323	1090	215	79	22	9.9	9.3	20	2.6
28	5.0	4.7	1.7	298	922	205	74	21	9.6	9.1	4.8	2.6
29	5.6	4.4	1.7	997	745	188	93	21	9.4	8.9	4.7	2.5
30	5.6	4.2	1.5	5990	---	177	128	20	9.2	8.8	4.6	2.5
31	5.9	---	1.4	1930	---	163	---	19	---	8.6	4.5	---
TOTAL	137.4	190.1	79.8	16240.2	96291	10191	3830	1568	401.1	619.3	434.3	100.5
MEAN	4.43	6.34	2.57	524	3320	329	128	50.6	13.4	20.0	14.0	3.35
MAX	5.9	8.9	4.4	5990	18700	624	218	125	19	156	98	4.4
MIN	3.2	4.2	1.4	1.5	486	163	74	19	9.2	7.4	4.5	2.5
AC-FT	273	377	158	32210	191000	20210	7600	3110	796	1230	861	199

CAL YR 1979 TOTAL 55368.7 MEAN 152 MAX 10000 MIN 1.1 AC-FT 109800
WTR YR 1980 TOTAL 130082.7 MEAN 355 MAX 18700 MIN 1.4 AC-FT 258000

09513000 AGUA FRIA RIVER AT WADDELL DAM, AZ

LOCATION.--Lat 33°51'20", long 112°15'58", in SW¼ sec.16, T.6 N., R.1 E., Maricopa County, Hydrologic Unit 15070102, at left upstream end of Waddell Dam, and 22 mi (35 km) northwest of Glendale.

DRAINAGE AREA.--1,459 mi^2 (3,779 km^2).

PERIOD OF RECORD.--November 1910 to September 1914 (gage heights only), October 1914 to September 1919, October 1919 to September 1924 (gage heights only), October 1933 to current year (monthly discharge only). Published as "near Glendale" prior to 1920, and as "at Lake Pleasant Dam" 1920 to September 1962.

REVISED RECORDS.--WSP 1213: 1915-16, 1918-19. WSP 1343: Drainage area. WSP 1513: 1956.

GAGE.--Nonrecording gage on Lake Pleasant read once daily. Datum of gage is 1,431.2 ft (436.23 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1924, nonrecording gage or water-stage recorder at several sites in the vicinity of diversion dam 1.5 mi (2.4 km) downstream from Waddell Dam, at different datum.

REMARKS.--Records fair. Figures given herein represent flow into Lake Pleasant. Inflow computed on basis of three factors as follows: 1. Change in contents of Lake Pleasant and in contents of small reservoir behind diversion dam 1.5 mi (2.4 km) downstream from Lake Pleasant. 2. (a) Release from Lake Pleasant, computed from twice-daily readings by Clausen-Pierce weir rule in Beardsley Canal, checked by current-meter measurements by U.S. Geological Survey. (b) Spill from Lake Pleasant, measured over diversion dam based on staff-gage readings. See tables of diversions and spill below. 3. Effect of rainfall and evaporation on lake; evaporation assumed as 0.85 of that measured once daily in 3-ft-square (0.9-m-square) land pan buried 1½ ft (½ m) in ground near left end of Waddell Dam. Effect of bank storage and bank release in Lake Pleasant is not taken into account. For months when inflow to lake is small and other factors relatively large, discordant figures of runoff may appear. Such discrepancies that may be attributed to inaccuracies in the capacity table, or to the fact that bank storage and bank release are not taken into account, result in quantities too large for periods of falling stage, but tend to be compensated for by quantites too small for periods of rising stage. Inaccuracies in figures of release and evaporation, which may be within reasonable limits within themselves, may result in disproportionately large inaccuracies in small figures of inflow computed as residuals. Diversions for irrigation above Lake Pleasant of probably not over 1,000 acres (4.0 km^2). Spill occurred in 1941, 1966, 1968, 1978, 1979, and 1980 water years.

COOPERATION.--Records collected and prepared in cooperation with Maricopa County Municipal Water Conservation District No. 1.

AVERAGE DISCHARGE.--52 years (water years 1915-19, 1934-80), 98.6 ft^3/s (2.792 m^3/s), 71,400 acre-ft/yr (88.0 hm^3/yr); median of yearly mean discharges, 40 ft^3/s (1.13 m^3/s), 29,000 acre-ft/yr (36 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 105,000 ft^3/s (2,970 m^3/s) Jan. 28, 1916, gage height, 30 ft (9.1 m), same datum as in 1919, from floodmarks, Nov. 27, 1919, gage height, 33 ft (10.1 m), datum then in use, from floodmarks, from rating curve extended above 13,000 ft^3/s (370 m^3/s) on basis of velocity-area studies (on basis of comparative gage heights, the flood of Nov. 27, 1919, is believed to have been the greater); no flow during spring and summer of several years.

MONTHLY INFLOW TO LAKE PLEASANT; SPILL AND DIVERSIONS BELOW LAKE PLEASANT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Inflow to Lake Pleasant		Diversions in acre-feet	Spill in acre-feet
	Mean (cfs)	Runoff in acre-feet		
October	5.61	345	8.93	0
November	0	0	0	0
December	4.47	275	0	0
CAL YR 1979	261	189,000	80,880	144,600
January	791	48,650	0	0
February	5,139	295,600	1,770	283,600
March	503	30,950	8,990	18,190
April	190	11,310	13,540	1,090
May	95.6	5,880	7,990	0
June	55.1	3,280	12,050	0
July	44.7	2,750	13,080	0
August	52.7	2,010	11,740	0
September	24.2	1,440	5,050	0
WTR YR 1980	575	402,500	74,220	302,900

09513500 LAKE PLEASANT AT WADDELL DAM, AZ

LOCATION.--Lat 33°51'20", long 112°15'58", in SW¼ sec.16, T.6 N., R.1 E., Maricopa County, Hydrologic Unit 15070102, at left upstream end of Waddell Dam on Agua Fria River.

DRAINAGE AREA.--1,459 mi^2 (3,779 km^2).

PERIOD OF RECORD.--February 1928 to current year (annual figures only prior to 1939). Prior to October 1963 published as "at Lake Pleasant Dam."

GAGE.--Nonrecording gage read once daily. Datum of gage is 1,431.2 ft (436.23 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by concrete multiple-arch dam; dam completed and storage began in 1927. Capacity, 157,200 acre-ft (194 hm^3), of which 84,300 acre-ft (104 hm^3) is between gage heights 66 ft (20.1 m)—32 ft (9.8 m) above centerline of outlet works—and 146.0 ft (44.50 m), crest of spillway, and 72,900 acre-ft (89.9 hm^3) between 146.0 ft (44.50 m) and 170.0 ft (51.82 m), top of spillway gates. At times, capacity is greater due to trash build-up on top of spillway gates. This condition is known to have occurred in water years 1978, 1979, and 1980. There is no storage below gage height 66 ft (20.1 m) because of accumulated sediment. Water released from reservoir flows down river channel 1.5 mi (2.4 km) to diversion dam where it is diverted for irrigation near Beardsley. Figures given herein represent usable contents in Lake Pleasant (based on 1979 capacity table). Contents of small reservoir formed by diversion dam is not included.

COOPERATION.--Gage-height record furnished by Maricopa County Municipal Water Conservation District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 178,500 acre-ft (220 hm^3) Apr. 19, 1941, of which 500 acre-ft (616,000 m^3) was uncontrolled storage; maximum gage height, 170.92 ft (52.096 m) Mar. 28, 1979; no storage Sept. 5, 1933, July 19 to Aug. 13, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 159,000 acre-ft (196 hm^3) Mar. 25-31 and Apr. 2-10, gage height, 170.50 ft (51.968 m); minimum, 97,300 acre-ft (120 hm^3) Jan. 3-9, minimum gage height, 151.07 ft (46.046 m) Jan. 8, 9.

Capacity table (gage height, in feet, and usable contents, in acre-feet)

150	94,450	170	157,200
160	123,200	170.5	159,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 1700

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101000	99400	98000	97400	149000	156000	158000	154000	149000	137000	124000	112000
2	101000	99300	97900	97400	150000	157000	159000	154000	149000	136000	123000	111000
3	101000	99200	97900	97300	151000	156000	159000	154000	149000	136000	123000	111000
4	101000	99200	97900	97300	152000	156000	159000	154000	148000	136000	122000	111000
5	101000	99100	97800	97300	152000	156000	159000	154000	148000	135000	122000	110000
6	101000	99100	97800	97300	153000	156000	159000	154000	148000	135000	121000	110000
7	101000	99000	97800	97300	153000	156000	159000	154000	148000	134000	121000	110000
8	101000	99100	97800	97300	154000	157000	159000	154000	147000	134000	121000	109000
9	100000	99000	97800	97300	154000	157000	159000	154000	147000	133000	120000	109000
10	100000	99000	97700	97700	154000	158000	159000	153000	147000	133000	120000	109000
11	100000	98900	97700	98200	154000	158000	158000	153000	146000	133000	119000	109000
12	100000	98900	97700	105000	154000	158000	158000	153000	146000	132000	119000	108000
13	100000	98800	97700	107000	154000	158000	158000	153000	145000	132000	118000	108000
14	100000	98800	97700	107000	155000	158000	158000	153000	145000	132000	118000	108000
15	100000	98800	97700	108000	149000	158000	157000	153000	144000	131000	118000	108000
16	100000	98700	97700	109000	148000	158000	157000	153000	144000	131000	117000	108000
17	100000	98700	97600	109000	148000	158000	157000	152000	144000	130000	117000	108000
18	100000	98700	97600	110000	147000	158000	157000	152000	143000	130000	116000	107000
19	100000	98600	97600	113000	149000	158000	156000	152000	143000	129000	116000	107000
20	100000	98600	97600	114000	147000	158000	156000	152000	142000	129000	116000	107000
21	100000	98600	97600	115000	151000	158000	156000	152000	142000	129000	115000	107000
22	99900	98500	97600	116000	148000	158000	155000	152000	141000	128000	115000	107000
23	99900	98400	97600	116000	149000	158000	155000	152000	141000	128000	114000	107000
24	99800	98400	97500	116000	151000	158000	155000	151000	140000	128000	114000	107000
25	99700	98400	97500	117000	151000	159000	155000	151000	140000	127000	114000	107000
26	99700	98300	97500	117000	151000	159000	154000	151000	139000	127000	114000	107000
27	99600	98300	97500	117000	152000	159000	154000	150000	139000	126000	114000	107000
28	99600	98300	97500	117000	154000	159000	154000	150000	138000	125000	113000	107000
29	99500	98200	97500	118000	156000	159000	154000	150000	138000	125000	113000	106000
30	99400	98100	97400	138000	---	159000	154000	150000	137000	125000	112000	106000
31	99400	---	97400	146000	---	159000	---	149000	---	124000	112000	---
MAX	101000	99400	98000	146000	156000	159000	159000	154000	149000	137000	124000	112000
MIN	99400	98100	97400	97300	147000	156000	154000	149000	137000	124000	112000	106000
(†)	151.87	151.36	151.12	166.92	169.58	170.38	169.11	167.85	164.34	160.31	156.37	154.45
(‡)	-3600	-1300	-700	+48600	+10000	+3000	-5000	-5000	-12000	-13000	-12000	-6000

CAL YR 1979 MAX 161000 MIN 97400 ‡ -58600
WTR YR 1980 MAX 159000 MIN 97300 ‡ +3000

† Gage height, in feet, at 1700 on last day of month.
‡ Change in contents, in acre-feet.

09513780 NEW RIVER NEAR ROCK SPRINGS, AZ

LOCATION.--Lat 33°58'27", long 112°05'54", in SW¼SW¼ sec.6, T.7 N., R.3 E., Maricopa County, Hydrologic Unit 15070102, on right bank 180 ft (55 m) upstream from road crossing and 6 mi (10 km) southeast of Rock Springs.

DRAINAGE AREA.--67.3 mi^2 (174 km^2).

PERIOD OF RECORD.--Water years 1962-65 (annual maximums only), October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,310 ft (704 m), from topographic map. Jan. 2, 1964, to Sept. 30, 1965, crest-stage gage, and Oct. 28, 1965, to Nov. 16, 1967, water-stage recorder, at same site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--15 years, 15.7 ft^3/s (0.445 m^3/s), 11,400 acre-ft/yr (14.1 hm^3/yr); median of yearly mean discharges, 7.7 ft^3/s (0.22 m^3/s), 5,600 acre-ft/yr (6.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft^3/s (527 m^3/s) Sept. 5, 1970, gage height, 13.5 ft (4.11 m), from profile past gage, from rating curve extended above 380 ft^3/s (11 m^3/s) on basis of slope-area measurements at gage heights 3.6, 4.73, 7.3, 10.7, and 13.5 ft (1.10, 1.442, 2.23, 3.26, and 4.11 m); no flow for most of time most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 310 ft^3/s or 8.8 m^3/s on basis of drawdown and surge correction to slope-area measurement at gage height 10.7 ft or 3.26 m) and peak discharges above base of 200 ft^3/s (5.7 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1430	2,090	59.2	5.31	1.618	Feb. 14	1600	5,130	145	6.53	1.990
Jan. 15	0500	682	19.3	4.39	1.338	Feb. 15	1230	5,520	156	6.70	2.042
Jan. 18	2230	940	26.6	4.65	1.417	Feb. 19	2000	*9,350	265	8.13	2.478
Jan. 30	0130	4,300	122	6.22	1.896	July 13	0530	307	8.69	3.66	1.116

No flow Oct. 1 to Jan. 8, Aug. 18 to Sept. 5, Sept. 21-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	74	130	16	13	3.9	1.6	.34	.00
2	.00	.00	.00	.00	51	120	15	12	3.9	1.6	.34	.00
3	.00	.00	.00	.00	37	100	15	10	3.9	1.5	.34	.00
4	.00	.00	.00	.00	30	92	14	9.0	3.5	1.1	.23	.00
5	.00	.00	.00	.00	24	82	14	8.6	3.3	.91	.15	.00
6	.00	.00	.00	.00	20	76	14	8.3	3.3	.72	.14	1.1
7	.00	.00	.00	.00	16	68	13	8.0	3.0	.91	.13	.25
8	.00	.00	.00	.00	14	62	13	7.3	2.8	.72	.13	.18
9	.00	.00	.00	.98	13	56	13	7.0	2.8	.44	.12	.14
10	.00	.00	.00	96	12	52	12	6.8	2.5	.44	.12	.19
11	.00	.00	.00	831	10	48	12	6.5	2.2	.26	.11	.14
12	.00	.00	.00	321	9.6	44	12	6.8	2.0	.34	.10	.14
13	.00	.00	.00	72	12	42	12	6.2	2.2	58	.08	.14
14	.00	.00	.00	38	1510	38	12	5.9	2.2	4.3	.09	.14
15	.00	.00	.00	142	2400	36	12	5.9	1.9	1.8	.14	.14
16	.00	.00	.00	44	340	34	11	6.5	1.5	.57	.12	.15
17	.00	.00	.00	30	613	32	11	6.2	1.5	.26	.03	.14
18	.00	.00	.00	115	389	30	11	5.7	1.1	.26	.00	.13
19	.00	.00	.00	180	1130	28	11	5.4	1.1	.15	.00	.10
20	.00	.00	.00	70	750	26	11	5.2	1.1	.44	.00	.04
21	.00	.00	.00	42	600	25	11	5.0	1.1	.14	.00	.00
22	.00	.00	.00	28	460	24	11	5.0	1.1	.14	.00	.00
23	.00	.00	.00	21	370	23	11	4.5	1.4	.14	.00	.00
24	.00	.00	.00	16	300	22	11	4.5	1.6	.14	.00	.00
25	.00	.00	.00	13	250	21	11	4.5	1.8	.14	.00	.00
26	.00	.00	.00	10	200	20	11	4.7	1.8	.15	.00	.00
27	.00	.00	.00	8.6	180	19	11	4.7	1.8	.15	.00	.00
28	.00	.00	.00	8.0	150	18	11	4.7	1.6	.14	.00	.00
29	.00	.00	.00	393	140	17	40	4.3	1.6	.26	.00	.00
30	.00	.00	.00	1340	---	17	15	4.1	1.6	.44	.00	.00
31	.00	---	.00	137	---	16	---	4.1	---	.34	.00	---
TOTAL	.00	.00	.00	3956.58	10104.6	1418	397	200.4	65.1	78.50	2.71	3.12
MEAN	.000	.000	.000	128	348	45.7	13.2	6.46	2.17	2.53	.087	.10
MAX	.00	.00	.00	1340	2400	130	40	13	3.9	58	.34	1.1
MIN	.00	.00	.00	.00	9.6	16	11	4.1	1.1	.14	.00	.00
AC-FT	.00	.00	.00	7850	20040	2810	787	397	129	156	5.4	6.2

CAL YR 1979 TOTAL 11834.42 MEAN 32.4 MAX 1850 MIN .00 AC-FT 23470
WTR YR 1980 TOTAL 16226.01 MEAN 44.3 MAX 2400 MIN .00 AC-FT 32180

09513800 NEW RIVER AT NEW RIVER, AZ

LOCATION.--Lat 33°54'41", long 112°08'26", in NW¼NE¼ sec.34, T.7 N., R.2 E., Maricopa County, Hydrologic Unit 15070102, near center of downstream side of bridge on east frontage road of Interstate Highway 17, 0.5 mi (0.8 km) southwest of village of New River, and 10 mi (16 km) south of Rock Springs.

DRAINAGE AREA.--83.3 mi^2 (215.7 km^2).

PERIOD OF RECORD.--December 1960 to current year. Prior to October 1965, published as "near Black Canyon."

REVISED RECORDS.--WRD Ariz. 1972: Drainage area (former site).

GAGE.--Water-stage recorder. Datum of gage is 1,984.02 ft (604.729 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1972, at site 0.3 mi (0.5 km) downstream at datum 10.86 ft (3.310 m) lower (now used as supplementary gage).

REMARKS.--Records poor. No storage or diversion above station.

AVERAGE DISCHARGE.--19 years (water years 1962-80), 15.4 ft^3/s (0.436 m^3/s), 11,160 acre-ft/yr (13.8 hm^3/yr); median of yearly mean discharges, 5.6 ft^3/s (0.16 m^3/s), 4,100 acre-ft/yr (5.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft^3/s (552 m^3/s) Sept. 5, 1970, gage height, 9.98 ft (3.042 m), from rating curve extended above 1,300 ft^3/s (37 m^3/s) on basis of slope-area measurements at gage heights 5.57, 7.33, 9.12, and 9.98 ft (1.698, 2.234, 2.780, and 3.042 m); maximum gage height, 12.34 ft (3.761 m) Mar. 2, 1978, from high-water mark in gage well; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 960 ft^3/s or 27 m^3/s on basis of step-backwater computations and slope-area measurement at gage height 12.34 ft or 3.761 m) and peak discharges above base of 500 ft^3/s (14 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1530	2,600	73.6	6.08	1.853
Jan. 15	0600	1,470	41.6	5.13	1.564
Jan. 18	2330	1,770	50.1	5.40	1.646
Jan. 30	0200	3,250	92.0	6.54	1.993
Feb. 14	1730	4,140	117	7.10	2.164
Feb. 15	1400	6,410	182	8.30	2.530
Feb. 19	2030	*14,900	422	11.44	3.487
Apr. 29	1230	750	21.2	4.28	1.304

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	480	88	24	16	2.6	.00	.00	.00
2	.00	.00	.00	.00	320	80	23	15	2.5	.00	.00	.00
3	.00	.00	.00	.00	204	73	22	14	2.4	.00	.00	.00
4	.00	.00	.00	.00	118	67	22	13	2.4	.00	.00	.00
5	.00	.00	.00	.00	85	62	21	12	2.1	.00	.00	.00
6	.00	.00	.00	.00	73	58	20	12	1.8	.00	.00	.00
7	.00	.00	.00	.00	62	55	20	11	2.1	.00	.00	.00
8	.00	.00	.00	.00	48	52	19	11	2.1	.00	.00	.00
9	.00	.00	.00	.00	37	49	19	10	2.4	.00	.00	.00
10	.00	.00	.00	180	26	47	18	9.4	2.4	.00	.00	.00
11	.00	.00	.00	1650	17	45	18	8.9	1.8	.00	.00	.00
12	.00	.00	.00	1080	11	43	17	8.4	1.5	.00	.00	.00
13	.00	.00	.00	200	8.9	42	17	7.9	.70	34	.00	.00
14	.00	.00	.00	50	1790	41	17	7.5	.20	8.0	.00	.00
15	.00	.00	.00	570	2710	39	16	7.0	.04	.10	.00	.00
16	.00	.00	.00	140	415	38	16	6.6	.00	.00	.00	.00
17	.00	.00	.00	31	629	37	15	6.3	.00	.00	.00	.00
18	.00	.00	.00	276	404	36	15	5.9	.00	.00	.00	.00
19	.00	.00	.00	876	2180	35	15	5.6	.00	.00	.00	.00
20	.00	.00	.00	570	1940	33	14	5.3	.00	.00	.00	.00
21	.00	.00	.00	380	1520	32	14	5.0	.00	.00	.00	.00
22	.00	.00	.00	240	800	31	14	4.7	.00	.00	.00	.00
23	.00	.00	.00	134	400	30	13	4.4	.00	.00	.00	.00
24	.00	.00	.00	75	250	30	13	4.2	.00	.00	.00	.00
25	.00	.00	.00	36	175	29	13	3.9	.00	.00	.00	.00
26	.00	.00	.00	21	140	28	12	3.7	.00	.00	.00	.00
27	.00	.00	.00	13	115	27	12	3.5	.00	.00	.00	.00
28	.00	.00	.00	12	100	26	12	3.3	.00	.00	.00	.00
29	.00	.00	.00	582	95	25	60	3.1	.00	.00	.00	.00
30	.00	.00	.00	1750	---	25	21	3.0	.00	.00	.00	.00
31	.00	---	.00	732	---	24	---	2.8	---	.00	.00	---
TOTAL	.00	.00	.00	9598.00	15152.9	1327	552	234.4	27.04	42.10	.00	.00
MEAN	.000	.000	.000	310	523	42.8	18.4	7.56	.90	1.36	.000	.000
MAX	.00	.00	.00	1750	2710	88	60	16	2.6	34	.00	.00
MIN	.00	.00	.00	.00	8.9	24	12	2.8	.00	.00	.00	.00
AC-FT	.00	.00	.00	19040	30060	2630	1090	465	54	84	.00	.00

CAL YR 1979	TOTAL	12966.30	MEAN 35.5	MAX 1810	MIN .00	AC-FT	25720	
WTR YR 1980	TOTAL	26933.44	MEAN 73.6	MAX 2710	MIN .00	AC-FT	53420	

NOTE.--No gage-height record Oct. 1 to Jan. 9, Jan. 13, 14, 16, 17, and 21-28, Feb. 1-13, Feb. 23 to Apr. 28, and Apr. 30 to June 2.

09513835 NEW RIVER AT BELL ROAD, NEAR PEORIA, AZ

LOCATION.--Lat 33°38'18", long 112°14'22", in NE¼NE¼ sec.3, T.3 N., R.1 E., Maricopa County, Hydrologic Unit 15070102, on downstream side of bridge at Bell Road, 1.6 mi (2.6 km) upstream from Skunk Creek, 3.1 mi (5.0 km) north of Peoria, and 9 mi (14 km) upstream from mouth.

DRAINAGE AREA.--187 mi^2 (484 km^2).

PERIOD OF RECORD.--Water years 1963, 1965-67 (annual maximums only), October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,190.00 ft (362.712 m) National Geodetic Vertical Datum of 1929 (Arizona State Highway Department bench mark). Oct. 1, 1965, to Sept. 30, 1967, crest-stage gage at present site and at site 50 ft (15 m) upstream, at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--13 years, 13.0 ft^3/s (0.368 m^3/s), 9,420 acre-ft/yr (11.6 hm^3/yr); median of yearly mean discharges, 6.0 ft^3/s (0.17 m^3/s), 4,300 acre-ft/yr (5.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft^3/s (413 m^3/s) Dec. 19, 1967, gage height, 13.5 ft (4.11 m), from rating curve extended above 680 ft^3/s (19.3 m^3/s) on basis of slope-area measurement of peak flow; no flow for most of time each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above, 1,800 ft^3/s or 51 m^3/s on basis of slope-area measurement at gage height 9.05 ft or 2.76 m) and peak discharges above base of 300 ft^3/s (8.50 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	2330	1,440	40.8	4.40	1.341
Jan. 19	0630	606	17.2	3.73	1.137
Jan. 30	0600	2,600	73.6	5.09	1.551
Feb. 14	2100	4,020	114	5.80	1.768
Feb. 15	1800	6,170	175	6.74	2.054
Feb. 17	1200	2,900	82.1	5.25	1.600
Feb. 19	0030	1,810	51.3	4.64	1.414
Feb. 20	0130	*12,100	343	8.91	2.716
Feb. 21	1400	2,670	75.6	5.13	1.564

No flow for most of year.

REVISIONS.--The annual maximum (*), peak discharges above base of 300 ft^3/s (8.50 m^3/s), and daily discharges, in cubic feet per second, for period of flow in water year 1979 have been revised as shown below. These figures supersede those published in the report for 1979.

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 11, 1978	unknown	877	24.8	a3.98	1.213
Dec. 19, 1978	0330	*8,410	238	7.61	2.320
Jan. 17, 1979	1130	4,900	139	6.19	1.887
Mar. 24, 1979	1000	758	21.5	3.84	1.170

a From high-water mark in gage well.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

Nov. 11, 1978	151	Dec. 25, 1978	0.70	Jan. 27, 1979	23	Feb. 7, 1979	1.4
12	73	Jan. 17, 1979	1,140	28	13	8	1.1
13	13	18	967	29	9.7	9	.60
14	.20	19	957	30	6.3	10	.00
Dec. 18, 1978	2,250	20	60	31	4.8	Mar. 29, 1979	218
19	2,760	21	25	Feb. 1, 1979	4.0	30	49
20	75	22	15	2	9.4	31	17
21	22	23	7.9	3	9.1	Apr. 1, 1979	9.4
22	11	24	5.0	4	5.8	2	3.8
23	4.8	25	4.8	5	4.0	3	.80
24	2.0	26	36	6	2.6		

	TOTAL	MEAN	MAX	MIN	AC-FT
Nov. 1978	237.20	7.91	151	.00	470
Dec. 1978	5,125.50	165	2,760	.00	10,170
Jan. 1979	3,274.50	106	1,140	.00	6,490
Feb. 1979	38.00	1.36	9.4	.00	75
Mar. 1979	284.00	9.16	218	.00	563
Apr. 1979	14.00	.47	9.4	.00	28
CAL YR 1978	23,133.70	63.4	6,000	.00	45,890
WTR YR 1979	8,973.20	24.6	2,760	.00	17,800

09513835 NEW RIVER AT BELL ROAD, NEAR PEORIA, AZ--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	26	5.1	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	9.8	3.5	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	3.0	2.0	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.60	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	241	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	462	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	17	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.0	951	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	15	2860	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	9.4	1110	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.04	1280	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	416	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	171	943	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	22	3770	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	6.3	1390	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.02	889	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	339	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	125	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	46	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	27	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	19	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	13	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	9.0	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	1240	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	176	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	2360.76	14225.80	11.70	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	76.2	491	.38	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	1240	3770	5.1	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	4680	28220	23	.00	.00	.00	.00	.00	.00

CAL YR 1979 TOTAL 3610.50 MEAN 9.89 MAX 1140 MIN .00 AC-FT 7160
WTR YR 1980 TOTAL 16598.26 MEAN 45.4 MAX 3770 MIN .00 AC-FT 32920

09513860 SKUNK CREEK NEAR PHOENIX, AZ

LOCATION.--Lat 33°43'44", long 112°07'12", in SE¼ sec.35, T.5 N., R.2 E., Maricopa County, Hydrologic Unit 15070102, on downstream side of right end of bridge on east frontage road of Interstate Highway 17, 3 mi (5 km) north of Adobe and 20 mi (32 km) north of City Hall in Phoenix.

DRAINAGE AREA.--64.6 mi^2 (167.3 km^2).

PERIOD OF RECORD.--Water years 1960-67 (annual maximums only), October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,459.95 ft (444.993 m) National Geodetic Vertical Datum of 1929. May 1961 to Sept. 30, 1967, crest-stage gage at site 100 ft (30 m) downstream at datum 5.99 ft (1.826 m) higher.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--13 years, 1.54 ft^3/s (0.044 m^3/s), 1,120 acre-ft/yr (1.38 hm^3/yr); median of yearly mean discharges, 0.88 ft^3/s (0.02 m^3/s), 640 acre-ft/yr (0.79 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s (326 m^3/s) Aug. 1, 1964, gage height, 10.48 ft (3.194 m), present datum, from rating curve extended above 6,200 ft^3/s (180 m^3/s); maximum gage height, 12.24 ft (3.731 m) Sept. 5, 1970; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 560 ft^3/s or 16 m^3/s on the basis of slope-conveyance estimate at gage height 8.75 ft or 2.667 m) and peak discharges above base of 100 ft^3/s (2.8 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 15	1500	260	7.36	6.15	1.875
Feb. 20	0200	*1,210	34.3	7.60	2.316

No flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	49	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	1.5	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	100	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	263	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	13	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	25	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.40	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	451.90	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	15.6	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	263	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	896	.00	.00	.00	.00	.00	.00	.00

CAL YR 1979 TOTAL 203.90 MEAN .56 MAX 103 MIN .00 AC-FT 404
WTR YR 1980 TOTAL 451.90 MEAN 1.23 MAX 263 MIN .00 AC-FT 896

09513970 AGUA FRIA RIVER AT AVONDALE, AZ

LOCATION.--Lat 33°26'06", long 112°19'59", in NW¼ sec.14, T.1 N., R.1 W., Maricopa County, Hydrologic Unit 15070102, on downstream side of bridge on U.S. Highway 80, 0.5 mi (0.8 km) east of Avondale, and 3 mi (5 km) upstream from mouth.

DRAINAGE AREA.--2,013 mi^2 (5,214 km^2), of which 1,459 mi^2 (3,779 km^2) above Lake Pleasant is noncontributing except during periods of spill from Waddell Dam. Flood water from drainage area of 247 mi^2 (640 km^2) above McMicken Dam may be diverted into Agua Fria River basin above station.

PERIOD OF RECORD.--Water years 1960-67, 1973 (annual maximums only), October 1967 to September 1972, October 1973 to current year.

GAGE.--Water-stage recorder since Jan. 7, 1974, with supplementary crest-stage gage. Datum of gage is 952.92 ft (290.450 m) National Geodetic Vertical Datum of 1929 (Arizona Highway Department bench mark). Apr. 26, 1961, to Sept. 30, 1967, crest-stage gage; Oct. 1, 1967, to July 21, 1972, water-stage recorder (with supplementary crest-stage gage from Mar. 10 to July 22, 1972) at present site at datum 2.92 ft (0.890 m) lower. July 22, 1972, to Jan. 6, 1974, crest-stage gage only, at railroad bridge upstream at datum 2.92 ft (0.890 m) lower.

REMARKS.--Records poor. Flow partly regulated by Lake Pleasant, 35 mi (56 km) upstream. (See elsewhere in this report.) Records at times may include waste water from the Arizona Canal of the Salt River Project. Excess flood water released from McMicken Dam on Trilby Wash may enter Agua Fria River basin above station; this amount generally is negligible.

AVERAGE DISCHARGE.--12 years (water years 1968-72, 1974-80), 37.0 ft^3/s (1.048 m^3/s), 26,810 acre-ft/yr (33.1 hm^3/yr); median of yearly mean discharges, 6.0 ft^3/s (0.17 m^3/s), 4,300 acre-ft/yr (5.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,200 ft^3/s (1,250 m^3/s) Feb. 20, 1980, gage height, 6.77 ft (2.063 m); maximum gage height, 12.70 ft (3.871 m) Dec. 20, 1967, datum then in use; no flow for most of time each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,200 ft^3/s (1,250 m^3/s), Feb. 20, gage height, 6.77 ft (2.063 m); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	2230	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	21000	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	4720	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	2200	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	2080	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	1830	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	19400	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	13100	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	11600	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	3800	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	1500	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	500	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	100	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	796	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	221	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	1017.00	84060.00	.00	.00	.00	.00	.00	.00	.00
MEAN	.000	.000	.000	32.8	2899	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	796	21000	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	2020	166700	.00	.00	.00	.00	.00	.00	.00

CAL YR 1979 TOTAL 20360.00 MEAN 55.8 MAX 5980 MIN .00 AC-FT 40380
WTR YR 1980 TOTAL 85077.00 MEAN 232 MAX 21000 MIN .00 AC-FT 168800

09514300 GILA RIVER AT U.S. HIGHWAY 80 NEAR BUCKEYE, AZ

LOCATION.--Lat 33°20'03", long 112°37'22", in SW¼SW¼SW¼ sec.13, T.1 S., R.4 W., Maricopa County, Hydrologic Unit 15070101, on U.S. Highway 80 bridge, 3.4 mi (5.5 km) southwest of Buckeye.

DRAINAGE AREA.--46,345 mi^2 (120,034 km^2).

PERIOD OF RECORD.--May 1979 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 806.15 ft (245.715 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Treated effluent released from treatment Plant at 91st Avenue to river approximately 20 mi (32 km) upstream from station. Station established to furnish data on ground-water recharge along the Gila River during periods of releases from upstream reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176,000 ft^3/s (4,980 m^3/s) Feb. 16, 1981, computed by flood-routing method; maximum gage height unknown. Minimum daily discharge, 2.7 ft^3/s (0.076 m^3/s) Sept. 26, 1981.

EXTREMES FOR CURRENT PERIOD.--May to September 1979: Maximum discharge during period, 1,070 ft^3/s (30.3 m^3/s) Aug. 12, gage height, 8.06 ft (2.457 m); minimum daily, 3.8 ft^3/s (0.11 m^3/s) Sept. 27.
Water Year 1980: Maximum discharge, 176,000 ft^3/s (4,980 m^3/s) Feb. 16, computed by flood-routing method, maximum gage height unknown; minimum daily discharge, 2.7 ft^3/s (0.076 m^3/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								131	92	9.0	9.6	11
2								131	78	8.0	9.3	14
3								125	60	6.8	10	15
4								267	64	7.7	14	15
5								216	60	12	15	15
6								212	54	18	14	12
7								230	42	19	7.7	11
8								216	37	22	6.5	11
9								198	31	23	7.4	9.6
10								168	37	22	9.0	13
11								127	49	22	9.0	12
12								123	40	11	143	9.0
13								120	34	8.4	107	8.7
14								127	28	9.0	54	11
15								107	27	7.4	86	12
16								86	30	6.3	80	9.0
17								77	20	6.8	67	14
18								70	22	7.1	61	16
19								73	26	6.3	52	16
20								81	24	9.3	50	11
21								122	22	10	39	11
22								97	17	14	20	7.4
23								67	23	14	12	7.7
24								57	16	13	12	10
25								57	15	12	13	6.0
26								70	17	13	9.3	3.9
27								73	14	12	11	3.8
28								72	10	7.7	10	5.4
29								85	9.3	10	9.3	6.3
30								77	9.3	26	9.6	6.8
31								88	---	15	12	---
TOTAL								3750	1007.6	387.8	968.7	313.6
MEAN								121	33.6	12.5	31.2	10.5
MAX								267	92	26	143	16
MIN								57	9.3	6.3	6.5	3.8
AC-FT								7440	2000	769	1920	622

09514300 GILA RIVER AT U.S. HIGHWAY 80 NEAR BUCKEYE, AZ--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	12	75	100	4970	9400	1550	505	60	30	38	26
2	9.6	12	75	95	6990	10000	1560	1490	51	24	28	24
3	7.9	13	83	78	7460	11000	1500	1910	46	27	21	17
4	7.3	14	81	76	7490	10000	1820	1910	44	28	21	11
5	12	11	105	68	6460	9000	2070	1890	42	27	26	11
6	8.9	11	111	64	4890	6000	2140	1620	42	29	28	9.3
7	8.2	12	123	71	4500	2000	2270	737	43	29	30	8.0
8	8.0	14	121	78	4540	1300	2290	416	44	22	38	14
9	8.9	15	96	76	4450	1000	2230	349	35	21	34	6.8
10	8.6	14	76	76	2940	900	2070	328	33	24	40	12
11	8.9	14	76	100	1100	1000	1940	315	28	19	30	17
12	11	13	83	118	678	1100	1880	333	27	20	26	12
13	12	12	61	114	501	1000	1880	359	25	17	24	8.9
14	11	14	50	116	496	900	1920	461	27	23	21	8.6
15	11	14	50	123	21000	860	1840	470	29	19	39	12
16	12	15	54	111	143000	840	1310	567	29	23	44	11
17	13	15	62	112	99400	860	812	392	26	32	30	9.6
18	12	14	68	111	86000	900	667	335	29	33	40	6.5
19	13	14	61	109	92000	940	587	300	31	31	24	12
20	14	15	57	125	98000	792	562	247	35	33	21	10
21	14	25	83	120	95000	851	662	245	38	31	24	19
22	13	39	96	126	118000	864	651	165	36	19	23	17
23	12	50	95	125	84800	805	673	130	33	12	21	8.6
24	15	54	102	128	60000	805	749	75	32	12	24	6.0
25	15	58	112	126	64000	858	731	70	28	14	48	4.2
26	16	67	112	120	55000	864	597	69	31	124	43	2.7
27	16	72	90	111	18000	851	552	73	29	61	36	6.8
28	16	68	98	102	15000	684	505	76	43	62	24	6.2
29	14	75	96	78	13000	608	452	75	47	51	18	6.8
30	14	75	86	75	---	948	465	72	43	39	16	5.3
31	13	---	96	148	---	1510	---	62	---	48	26	---
TOTAL	367.1	851	2634	3189	1090755	79440	38935	16046	1088	984	906	330.2
MEAN	11.8	28.4	85.0	103	37920	2563	1298	518	36.3	31.7	29.2	11.0
MAX	16	75	123	148	143000	11000	2290	1910	60	124	48	26
MIN	7.9	11	50	64	496	608	452	62	25	12	16	2.7
AC-FT	728	1690	5220	6330	2181000	157600	77230	31830	2160	1950	1800	655

WTR YR 1980 TOTAL 1244525.3 MEAN 3400 MAX 143000 MIN 2.7 AC-FT 2469000

NOTE.--No gage-height record Feb. 16 to Mar. 19.

09515500 HASSAYAMPA RIVER AT BOX DAMSITE, NEAR WICKENBURG, AZ

LOCATION.--Lat 34°02'42", long 112°42'33", in SW¼SE¼ sec.7, T.8 N., R.4 W., Yavapai County, Hydrologic Unit 15070103, on right bank at Box damsite, 5.5 mi (8.8 km) northeast of Wickenburg.

DRAINAGE AREA.--417 mi^2 (1,080 km^2).

PERIOD OF RECORD.--January to June 1938, May 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,236.12 ft (681.569 m) National Geodetic Vertical Datum of 1929. January to June 1938 at site 1 mi (2 km) downstream at datum 23.76 ft (7.242 m) lower. May 1, 1946, to Nov. 17, 1949, at present site at datum 2.16 ft (0.658 m) higher.

REMARKS.--Records poor. Small diversions for irrigation and mining above station.

AVERAGE DISCHARGE.--34 years (water years 1947-80), 24.7 ft^3/s (0.700 m^3/s), 17,900 acre-ft/yr (22.1 hm^3/yr); median of yearly mean discharges, 9.4 ft^3/s (0.27 m^3/s), 6,800 acre-ft/yr (8.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,000 ft^3/s (1,640 m^3/s) Sept. 5, 1970, gage height, 34.6 ft (10.55 m), from profile past gage, by slope-area measurement of peak flow; no flow for many days in 1964 and 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 1,300 ft^3/s or 37 m^3/s on basis of slope-area measurement at gage height 34.6 ft or 10.55 m) and peak discharges above base of 500 ft^3/s (14 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	1630	2,340	66.3	8.48	2.585
Jan. 15	0630	500	14.2	7.40	2.256
Jan. 30	0300	14,600	413	13.80	4.206
Feb. 14	1800	7,740	219	10.51	3.203
Feb. 15	1030	5,690	161	9.68	2.950
Feb. 17	0830	3,380	95.7	8.62	2.627
Feb. 19	2300	*24,900	705	18.90	5.761
Feb. 21	0900	7,440	211	10.20	3.109

Minimum daily, 1.7 ft^3/s (0.048 m^3/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	1.9	5.1	5.5	900	380	168	109	27	14	15	14
2	3.9	1.9	5.1	4.7	605	330	180	103	26	14	26	13
3	3.9	1.9	5.1	5.5	392	290	168	90	24	14	21	13
4	3.6	1.9	5.5	5.5	360	280	160	78	24	14	15	13
5	3.6	1.9	5.5	5.5	290	276	154	72	24	14	14	13
6	2.9	1.9	6.0	6.0	240	272	145	68	25	13	14	12
7	3.2	1.9	6.0	6.0	220	264	139	58	25	13	12	12
8	3.2	1.9	6.0	5.1	196	264	133	55	25	12	10	11
9	2.9	2.1	6.0	5.5	160	256	127	49	24	11	10	11
10	2.6	2.1	5.5	185	151	244	109	44	23	11	10	11
11	2.9	2.1	6.0	1230	136	285	98	45	23	11	11	10
12	2.9	2.3	5.1	110	136	280	93	45	19	11	12	10
13	2.9	2.3	5.5	100	127	236	88	42	17	11	11	10
14	3.2	2.3	6.0	66	2970	240	86	40	17	10	11	9.1
15	2.9	2.6	6.0	157	3610	224	86	40	16	10	17	9.1
16	2.9	2.6	5.1	95	752	216	86	42	14	10	14	8.5
17	2.9	2.6	5.1	68	1680	188	81	42	14	10	11	7.4
18	2.9	2.9	5.1	77	2010	184	78	36	16	9.1	10	6.9
19	2.9	2.9	5.1	160	4810	204	78	34	17	9.1	9.1	7.0
20	2.6	3.2	5.1	72	6670	200	76	31	17	11	9.1	7.0
21	2.6	3.2	5.1	62	3810	164	72	31	17	11	9.1	6.0
22	2.6	3.2	5.5	60	1960	192	70	29	17	11	8.0	6.0
23	2.6	3.2	5.1	53	1110	204	74	29	16	11	7.4	6.0
24	2.6	3.2	5.1	48	908	196	72	27	14	10	34	6.0
25	2.3	3.9	5.1	30	780	188	74	27	16	10	45	6.0
26	2.1	3.9	5.5	30	640	200	68	27	17	10	15	5.0
27	2.1	4.3	5.5	27	528	216	62	27	15	10	14	5.0
28	1.9	4.3	5.1	27	464	192	60	27	16	9.1	13	5.0
29	1.9	4.3	6.0	1810	440	184	74	26	16	8.5	13	5.0
30	1.9	4.7	6.0	5430	---	168	109	26	16	15	13	4.0
31	1.7	---	6.0	1370	---	164	---	26	---	17	13	---
TOTAL	87.0	83.4	169.9	11316.3	37055	7181	3068	1425	577	354.8	446.7	262.0
MEAN	2.81	2.78	5.48	365	1278	232	102	46.0	19.2	11.4	14.4	8.73
MAX	3.9	4.7	6.0	5430	6670	380	180	109	27	17	45	14
MIN	1.7	1.9	5.1	4.7	127	164	60	26	14	8.5	7.4	4.0
AC-FT	173	165	337	22450	73500	14240	6090	2830	1140	704	886	520

CAL YR 1979 TOTAL 33789.0 MEAN 92.6 MAX 1390 MIN 1.0 AC-FT 67020
WTR YR 1980 TOTAL 62026.1 MEAN 169 MAX 6670 MIN 1.7 AC-FT 123000

09517000 HASSAYAMPA RIVER NEAR ARLINGTON, AZ

LOCATION.--Lat 33°20'50", long 112°43'30", in NW¼ sec.13, T.1 S., R.5 W., Maricopa County, Hydrologic Unit 15070104, at former U.S. Highway 80, 1.8 mi (2.9 km) upstream from mouth and 2.8 mi (4.5 km) northeast of Arlington.

DRAINAGE AREA.--1,470 mi^2 (3,810 km^2), approximately.

PERIOD OF RECORD.--Water years 1961-77 (annual maximums only), October 1977 to current year (discharge above 500 ft^3/s or 14 m^3/s only).

GAGE.--Water-stage recorder. Datum of gage is 831.91 ft (253.566 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Only daily discharges above 500 ft^3/s (14 m^3/s) are published. Records do not include irrigation return flow past station. Small diversions above station for irrigation and livestock.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft^3/s (1,100 m^3/s) Sept. 5, 1970, gage height 8.40 ft (2.560 m), result of slope-area measurement of peak flow; no natural flow for most of time each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*), (from rating curve extended above 430 ft^3/s or 12.2 m^3/s) and peak discharges above base of 1,000 ft^3/s (28.3 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	1130	3,210	90.9	2.76	0.841
Feb. 14	a2400	5,400	153.	3.56	1.085
Feb. 15	1900	1,930	54.7	2.11	0.643
Feb. 16	0100	1,180	33.4	1.66	0.506
Feb. 20	0600	*11,200	317.	5.16	1.573
Feb. 21	1730	3,210	90.9	2.76	0.841
Feb. 22	0830	1,280	36.2	1.74	0.530

No natural flow for most of year.
a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	---							
2				---	---							
3				---	---							
4				---	---							
5				---	---							
6				---	---							
7				---	---							
8				---	---							
9				---	---							
10				---	---							
11				---	---							
12				---	---							
13				---	---							
14				---	---							
15				---	1720							
16				---	---							
17				---	---							
18				---	---							
19				---	---							
20				---	3410							
21				---	734							
22				---	---							
23				---	---							
24				---	---							
25				---	---							
26				---	---							
27				---	---							
28				---	---							
29				---	---							
30				865	---							
31				---	---							
TOTAL				---	---							
MEAN				---	---							
MAX				---	---							
MIN				---	---							
AC-FT				---	---							

09517490 CENTENNIAL WASH AT SOUTHERN PACIFIC RAILROAD BRIDGE, NEAR ARLINGTON, AZ

LOCATION.--Lat 33°18'37", long 112°52'52", in sec.7, T.1 S., R.6 W., Maricopa County, Hydrologic Unit 15070104, on downstream side of bridge, 9.0 mi (14.5 km) upstream from Gillespie Dam and 7.2 mi (11.6 km) southwest of Arlington.

DRAINAGE AREA.--1,800 mi^2 (4,660 km^2), approximately.

PERIOD OF RECORD.--May 15, 1981 to Sept. 30, 1981.

GAGE.--Water-stage recorder. Datum of gage is 841.06 ft (256.355 m) National Geodetic Vertical Datum of 1929 (Maricopa County flood control bench mark).

REMARKS.--Records poor. Flow regulated by several small retention dams in upper end of basin. Small diversions above station for irrigation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge and gage height not determined. No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.03	2.3	2.3	.94
2								---	.03	.64	1.0	.35
3								---	.03	.06	.19	.13
4								---	.03	.03	1.6	.35
5								---	.72	1.0	3.2	.13
6								---	1.3	.03	2.8	.12
7								---	.98	.02	2.5	.11
8								---	.08	.02	2.1	.10
9								---	.03	.21	.80	.09
10								---	.03	.61	1.7	.08
11								---	.03	.61	.47	.07
12								---	.30	1.8	.50	.06
13								---	1.3	1.3	8.7	.05
14								---	1.5	1.9	2.2	.04
15								4.0	.64	2.6	1.3	.03
16								3.7	.04	.44	1.1	.02
17								2.6	.02	1.3	1.8	.01
18								3.1	.10	1.4	.85	.00
19								2.5	.09	.98	.27	.00
20								2.3	.41	.72	.07	.00
21								1.3	.64	1.6	.03	.00
22								.15	.47	1.8	.07	.00
23								.06	.98	2.0	.41	.00
24								.04	.15	2.3	2.1	.00
25								1.5	.23	.68	50	.00
26								2.1	.57	.85	3.1	.00
27								.41	1.3	1.4	2.2	.00
28								.07	1.8	2.5	2.2	.00
29								.05	1.9	2.7	2.3	.00
30								.04	2.1	1.9	1.6	.00
31								.02	---	2.4	1.8	---
TOTAL								---	17.83	38.10	101.26	2.68
MEAN								---	.59	1.23	3.27	.089
MAX								---	2.1	2.7	50	.94
MIN								---	.02	.02	.03	.00
AC-FT								---	35	76	201	5.3

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 33°13'45", long 112°46'00", in SE¼NE¼ sec.28, T.2 S., R.5 W., Maricopa County, Hydrologic Unit 15070101, at Gillespie Dam, 8 mi (13 km) downstream from Hassayampa River. Gila Bend Canal diverts from left end, and Enterprise Canal diverts from right end of Gillespie Dam.

DRAINAGE AREA.--49,650 mi^2 (128,600 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1935 to November 1939 (monthly discharge only published in WSP 1313), December 1939 to September 1971 (published with records for sta 09519500, Gila River below Gillespie Dam), 1972 and 1973 (water year estimates only, listed in REMARKS for sta 09519500), October 1973 to current year. Low-flow records prior to October 1970 are not equivalent as leakage less than 5 ft^3/s (0.14 m^3/s) is not included.
09518500. Gila Bend Canal: May 1935 to September 1971, October 1973 to current year (since October 1941, monthly discharge only).
09519000. Enterprise Canal: June 1935 to September 1939 (discharge measurements and monthly estimates only), October 1939 to September 1971, April 1974 to current year (since October 1941, monthly discharge only). Published as "Gillespie Canal" prior to 1951.

GAGE.--Gila Bend Canal: Water-stage recorder 200 ft (60.9 m) downstream from headgates.
Enterprise Canal: Water-stage recorder 600 ft (180 m) downstream from intake at dam.

REMARKS.--Records good except those below 1,000 ft^3/s (28.3 m^3/s), which are fair. Record is obtained by combining, on a daily basis, the flows of Gila Bend Canal, Enterprise Canal, and Gila River below Gillespie Dam (see sta 09519500). Some of the diversions to Gila Bend Canal in the 1980 water year were returned to the river below the gage.
Many large diversions above station for irrigation, municipal, and industrial use. Flow of Gila River and tributaries above this station is regulated by San Carlos Reservoir on Gila River—capacity, 1,073,600 acre-ft (1,320 hm^3); by a series of reservoirs on Salt River—capacity, 1,755,000 acre-ft (2,160 hm^3); by Bartlett and Horseshoe Reservoirs on Verde River—capacity, 317,700 acre-ft (392 hm^3); and by Lake Pleasant on Agua Fria River—capacity, 157,600 acre-ft (194 hm^3).

AVERAGE DISCHARGE.--45 years, 343 ft^3/s (9.714 m^3/s), 248,500 acre-ft/yr (306 hm^3/yr); median of yearly mean discharges, 76 ft^3/s (2.15 m^3/s), 55,100 acre-ft/yr (68 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 124,000 ft^3/s (3,510 m^3/s) Feb. 17, 1980; no flow except for possible leakage of less than 5 ft^3/s (0.14 m^3/s) Nov. 24-27, 1966, July 14, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 124,000 ft^3/s (3,510 m^3/s) Feb. 17; minimum daily, 57 ft^3/s (1.61 m^3/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	95	92	83	1930	10300	1270	481	191	103	72	118
2	89	86	105	78	6960	10300	1400	729	199	98	72	119
3	105	84	105	84	8000	10300	1400	1560	179	102	58	105
4	117	84	105	85	8400	9480	1460	1730	168	121	64	90
5	128	85	105	90	8200	7670	1890	1670	170	109	81	89
6	133	88	105	95	5800	4880	1930	1670	148	109	66	97
7	128	88	105	124	5050	1850	2010	1040	136	102	72	113
8	142	88	105	121	4880	1200	2040	693	136	87	75	122
9	166	90	105	143	4800	875	1970	509	127	82	81	124
10	153	99	119	203	4260	707	1850	476	111	84	85	104
11	154	103	120	203	1350	793	1720	416	129	80	85	93
12	137	103	105	183	623	880	1660	446	129	87	80	110
13	142	100	105	184	486	795	1610	339	105	98	113	110
14	138	92	120	188	394	753	1670	421	101	91	131	106
15	134	90	120	191	9440	753	1670	392	103	89	125	104
16	134	90	105	190	112000	713	1400	481	108	88	103	88
17	132	94	119	190	124000	673	904	421	93	92	101	70
18	132	105	135	191	83900	789	657	316	89	95	102	71
19	128	100	135	153	88700	837	545	295	98	104	117	71
20	126	86	120	154	98300	792	511	242	106	108	119	70
21	120	84	90	173	93300	792	581	204	136	104	103	71
22	114	86	85	170	108000	744	656	181	128	101	95	73
23	115	89	78	172	78900	490	655	163	100	85	82	75
24	110	91	81	172	59700	528	657	145	106	83	77	73
25	109	96	124	192	56000	562	620	150	96	87	204	69
26	106	100	129	193	38300	527	583	192	96	226	183	66
27	105	99	121	173	18400	527	513	197	106	183	183	66
28	110	101	101	175	13900	422	419	196	102	162	183	59
29	114	80	101	139	13000	337	364	189	100	120	190	58
30	115	61	126	564	---	392	375	190	106	92	216	57
31	109	---	89	561	---	1060	---	169	---	100	240	---
MEDIAN	126	90	105	173	9440	792	1400	392	108	98	101	89
MAX	166	105	135	564	124000	10300	2040	1730	199	226	240	124
MIN	83	61	78	78	394	337	364	145	89	80	58	57
AC-FT	7590	5430	6660	11140	2097000	142300	69400	32340	7340	6490	7060	5240
(†)	0	0	0	0	555	8010	8020	9460	5240	4510	3490	2860
(‡)	1090	1030	850	855	450	0	940	1180	908	649	525	1180

CAL YR 1979 MEDIAN 135 MAX 79300 MIN 58 AC-FT 2074000 † 41310 ‡ 6610
WTR YR 1980 MEDIAN 128 MAX 124000 MIN 57 AC-FT 2397000 † 42140 ‡ 9660

† Diversions, in acre-feet, to Gila Bend Canal (sta 09518500). See remarks above. For records prior to 1972, see sta 09519500.
‡ Diversions, in acre-feet, to Enterprise Canal (sta 09519000). For records prior to 1972, see sta 09519500.

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1950 to September 1971, March 1974 to current year.
Prior to October 1967, published as 09519500, Gila River below Gillespie Dam, Ariz.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to September 1971, April 1974 to current year.
WATER TEMPERATURES: December 1950 to September 1971, April 1974 to current year.

REMARKS.--Unpublished daily specific conductance measurements for period December 1950 to September 1964 available from district office in Tucson, Ariz.

COOPERATION.--Pesticide analysis performed by Environmental Protection Agency.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 13,200 micromhos July 10, 11, 1966; minimum observed, 236 micromhos Dec. 28, 1967.
WATER TEMPERATURES: Maximum observed, 36.5°C July 8, 1958, July 22, 1959, Aug. 5, 8, 1966; minimum observed, 1.5°C Jan. 1, 1951.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 7,820 micromhos Mar. 8; minimum observed, 510 micromhos Feb. 21.
WATER TEMPERATURES: Maximum observed, 34.0°C July 31; minimum observed, 10.0°C Dec. 1-3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV											
01...	0900	99	4500	8.4	14.0	11	10.2	--	200	K66	790
29...	0815	--	4930	7.9	12.0	9.4	10.6	64	230	88	980
DEC											
20...	0845	152	4280	7.8	12.5	22	12.4	50	3100	2300	830
FEB											
04...	1300	8390	890	8.0	17.0	480	9.4	110	K14000	K18000	190
27...	1100	16400	637	7.9	14.0	440	10.4	70	>9000	4800	150
APR											
18...	0930	657	2500	7.1	21.0	18	9.6	32	96	K34	480
MAY											
08...	0900	695	2000	8.0	20.0	40	9.6	30	420	290	430
JUN											
05...	1000	179	3900	9.0	25.0	96	9.4	93	300	2000	720
JUL											
10...	0800	83	4950	8.1	28.0	46	8.8	82	K1100	K32000	760
AUG											
28...	0830	192	4310	8.4	28.5	130	8.1	52	220	K100	850
SEP											
11...	0830	94	4020	8.1	25.0	82	7.8	76	K31000	8300	760
25...	0815	71	4220	8.0	24.0	100	8.1	37	3100	K1080	790

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV											
01...	580	180	82	650	10	12	210	610	990	2.0	23
29...	710	230	98	750	10	13	270	670	1100	2.0	23
DEC											
20...	610	180	93	630	9.5	14	220	600	880	1.9	33
FEB											
04...	64	48	18	58	1.8	3.4	130	71	71	.4	16
27...	77	40	13	73	2.6	3.1	77	64	100	.3	20
APR											
18...	310	120	44	340	6.7	8.2	170	310	500	1.2	60
MAY											
08...	270	110	38	260	5.5	7.5	160	210	420	1.1	19
JUN											
05...	510	170	72	600	9.7	10	210	520	910	1.6	29
JUL											
10...	660	150	93	830	13	13	93	730	1200	2.0	96
AUG											
28...	640	190	91	740	11	9.0	210	700	1100	1.9	16
SEP											
11...	530	170	81	630	10	17	230	610	970	2.2	19
25...	550	180	82	680	11	7.2	240	600	1000	2.3	20

K Based on non-ideal colony count.

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)
NOV											
01...	2790	2720	3.79	38	--	9.5	5.40	4.80	6.5	2.4	.30
29...	3190	3090	4.34	28	--	9.3	6.60	6.00	8.0	.10	5.0
DEC											
20...	2790	2620	3.79	47	--	12	6.60	7.30	8.0	4.4	4.7
FEB											
04...	383	377	.52	1300	--	.54	.54	.55	.65	1.2	.00
27...	369	362	.50	1630	--	.44	.30	.20	.36	1.6	.51
APR											
18...	1460	1500	1.99	1520	1520	4.3	.39	.37	.47	1.5	.39
MAY											
08...	1230	1180	1.67	1260	1260	3.7	.18	.26	.22	2.0	.84
JUN											
05...	2500	2460	3.40	2780	2780	5.3	.10	.06	.12	4.2	1.9
JUL											
10...	3210	3190	4.37	3510	3510	3.6	.21	.06	.25	5.1	.65
AUG											
28...	3080	3010	4.19	--	--	7.4	.26	.09	.31	2.9	1.0
SEP											
11...	2610	2680	3.55	--	6530	10	.80	.79	.97	3.3	1.0
25...	2900	2760	3.94	--	3280	11	.58	.53	.70	1.5	1.1

DATE	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
NOV											
01...	7.80	2.7	5.1	20	15	88	2.80	8.6	3.10	2.5	7.7
29...	6.70	.00	11	17	20	74	3.20	9.8	2.40	2.6	8.0
DEC											
20...	11.0	.00	12	22	24	97	3.30	10	3.10	2.6	8.0
FEB											
04...	1.70	1.3	.45	2.5	.9	10	1.20	3.7	.18	.16	.49
27...	2.10	1.4	.71	2.5	1.2	11	2.20	6.7	.13	.17	.52
APR											
18...	1.90	1.1	.76	6.5	5.1	28	.78	2.4	.64	.62	1.9
MAY											
08...	2.20	1.1	1.1	5.9	4.8	26	.76	2.3	.56	.46	1.4
JUN											
05...	4.30	2.3	2.0	9.8	7.3	43	1.50	4.6	.02	.02	.06
JUL											
10...	5.30	4.6	.71	9.1	4.3	40	.50	1.5	.00	.03	.09
AUG											
28...	3.20	2.1	1.1	11	8.5	49	.86	2.6	.22	.16	.49
SEP											
11...	4.10	2.3	1.8	14	12	62	2.60	8.0	1.90	1.5	4.6
25...	2.10	.50	1.6	15	13	67	2.30	7.1	1.40	1.2	3.7

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)
NOV											
01...	9	--	300	--	2000	0	--	0	--	--	--
29...	8	9	300	300	2300	0	0	10	0	0	0
DEC											
20...	17	--	400	--	2500	0	--	8	--	--	--
FEB											
04...	10	--	500	--	180	1	--	60	--	--	--
27...	11	5	800	200	180	0	0	50	0	26	0
APR											
18...	9	--	200	--	820	0	--	20	--	--	--
MAY											
08...	11	--	400	--	700	0	--	0	--	--	--
JUN											
05...	15	12	300	100	1800	0	0	0	0	3	1
JUL											
10...	9	--	100	--	22000	0	--	10	--	--	--
AUG											
28...	15	--	300	--	2000	0	--	20	--	--	--
SEP											
11...	14	14	100	100	2200	0	0	0	10	0	0
25...	14	--	200	--	2200	0	--	20	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
NOV											
01...	3	--	440	10	3	--	100	50	.9	--	--
29...	0	1	670	30	4	0	150	120	1.3	.7	17
DEC											
20...	1	--	1100	20	7	--	170	90	.3	--	--
FEB											
04...	130	--	36000	60	440	--	1800	210	.9	--	--
27...	170	4	45000	10	150	0	1400	20	.3	7.0	110
APR											
18...	5	--	950	20	0	--	110	50	.0	--	--
MAY											
08...	14	--	2300	<10	4	--	170	60	.0	--	--
JUN											
05...	22	24	3900	10	8	1	280	20	.1	.1	20
JUL											
10...	3	--	2100	30	1	--	210	60	.0	--	--
AUG											
28...	34	--	9200	30	23	--	440	90	.1	--	--
SEP											
11...	4	3	3900	20	5	0	230	40	.0	.0	6
25...	19	--	5000	40	10	--	300	70	.1	--	--

< Actual value is known to be less then value shown.

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)
NOV											
01...	--	4	--	0	--	10	--	20	--	--	.00
29...	5	3	5	1	0	20	10	22	22	--	.00
DEC											
20...	--	6	--	0	--	20	--	13	--	--	.01
FEB											
04...	--	1	--	1	--	200	--	12	--	--	.00
27...	0	1	0	4	1	250	10	37	4.5	5.4	.00
APR											
18...	--	2	--	0	--	20	--	7.0	--	--	.00
MAY											
08...	--	2	--	0	--	40	--	9.7	--	--	.00
JUN											
05...	5	4	4	0	0	50	0	26	8.3	13	.00
JUL											
10...	--	6	--	0	--	100	--	25	--	--	.00
AUG											
28...	--	6	--	0	--	70	--	13	--	--	.02
SEP											
11...	4	6	6	0	0	120	30	16	11	2.2	.01
25...	--	6	--	0	--	110	--	12	--	--	.01

DATE	PHENOLS (UG/L)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV										
01...	2	--	32.8	31.0	91.8	19.6	2.72	35	9.4	71
29...	2	9900	--	--	--	--	--	45	--	81
DEC										
20...	4	--	--	--	--	--	--	58	24	85
FEB										
04...	1	--	--	--	--	--	--	2500	52100	78
27...	0	--	--	--	--	--	--	2720	120000	86
APR										
18...	0	32000	--	--	--	--	--	--	--	--
MAY										
08...	2	--	18.5	18.5	.00	20.4	3.69	103	193	--
JUN										
05...	1	490000	--	--	--	--	--	237	115	--
JUL										
10...	95	--	--	--	--	--	--	123	28	--
AUG										
28...	9	91000	39.4	34.6	146	32.8	.000	426	221	--
SEP										
11...	3	32000	--	--	--	--	--	186	47	--
25...	20	63000	22.0	19.4	210	12.4	2.38	261	50	--

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)
NOV											
01...	0900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAY											
09...	0900	ND	.06	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
28...	0830	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	PCB, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV											
01...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAY											
09...	ND	ND	ND	ND	ND	--	ND	ND	--	--	--
AUG											
28...	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--

ND Material specifically analyzed for but not detected.

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4300	4050	4500	---	2700	820	1750	3600	---	5200	4600	---
2	3700	4450	---	3500	1260	---	1550	3000	3800	5200	---	4350
3	3700	4800	4300	3500	---	810	1900	1750	3900	5000	---	4200
4	3700	---	4400	3700	990	830	1580	---	4100	---	4800	4300
5	3500	4500	4500	3700	870	810	1580	950	4100	4800	4700	4000
6	3550	4500	4650	---	1060	890	---	1400	4400	---	4600	4500
7	---	4450	4400	4000	1140	700	1100	1750	4550	4800	4600	---
8	---	4600	4500	4000	1240	7820	1070	2050	---	5000	4700	3850
9	3900	4150	---	3900	1280	---	1060	2650	4500	5200	4100	4200
10	3600	4300	4750	4000	---	2600	1120	3000	4550	5200	---	4300
11	3700	---	4350	3700	1140	2750	1220	---	4900	5300	5100	4100
12	3700	---	4350	3600	1700	2550	1320	3500	4500	5200	5000	4250
13	3700	4350	4300	---	2200	2300	---	3200	4750	---	4200	---
14	---	4800	4500	3700	3100	2400	1320	3100	5100	5100	4500	---
15	3900	4950	3700	3700	3000	2400	1180	2700	---	5100	4800	4500
16	3700	4850	---	3700	---	---	1200	2750	5100	5000	4850	4000
17	3700	5200	3950	3700	---	2400	1720	2400	5100	5000	---	4100
18	3650	---	3500	3650	---	2350	2100	---	5300	4900	4700	4300
19	3600	4600	---	3650	600	2350	2350	2900	5400	4900	4400	4200
20	3900	5400	3450	---	590	2400	---	3100	5400	---	4550	4200
21	---	5500	3500	3600	510	2200	2700	3400	5300	4800	4600	---
22	4200	5500	---	3600	570	2550	2350	3500	---	4900	4600	4200
23	3800	---	---	3600	570	---	2200	4000	5350	4900	4700	4050
24	4300	5300	3500	3600	---	2400	2200	4600	5300	5000	---	4250
25	4100	---	---	3600	570	2750	2050	---	5000	5000	4700	4300
26	4200	4800	3800	3600	550	2700	2100	---	5300	5200	4750	4500
27	4300	4800	3700	---	570	2700	---	4400	5250	---	4750	4800
28	---	4600	3600	3600	730	2650	2550	4100	5200	4000	4700	---
29	4100	4700	3600	3700	760	2950	2850	4100	---	4100	4800	5200
30	4050	4600	---	3850	---	---	3200	4200	5200	4300	4950	5300
31	3900	---	3400	2900	---	2150	---	4300	---	4400	---	---
MEAN	3860	4740	4050	3670	1200	2320	1820	3090	4850	4900	4670	4330
MAX	4300	5500	4750	4000	3100	7820	3200	4600	5400	5300	5100	5300
MIN	3500	4050	3400	2900	510	700	1060	950	3800	4000	4100	3850

WTR YR 1980 MEAN 3630 MAX 7820 MIN 510

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	14.0	10.0	---	16.0	15.0	16.0	19.0	---	32.0	32.0	---
2	25.0	14.0	---	12.0	14.0	---	15.0	22.0	24.0	32.0	---	26.0
3	24.0	14.0	10.0	12.0	---	15.0	16.0	24.0	24.0	32.0	---	28.0
4	26.0	---	10.0	12.0	14.0	15.0	18.0	---	26.0	---	31.0	28.0
5	24.0	15.0	12.0	12.0	14.0	15.0	18.0	25.0	26.0	31.0	31.0	27.0
6	23.0	14.0	12.0	---	14.0	16.0	---	24.0	26.0	---	30.0	30.0
7	---	15.0	12.0	12.0	14.0	16.0	21.0	25.0	27.0	30.0	30.0	---
8	---	17.0	12.0	14.0	14.0	17.0	20.0	22.0	---	30.0	30.0	28.0
9	22.0	16.0	---	15.0	12.0	---	20.0	23.0	27.0	29.0	31.0	27.0
10	22.0	16.0	12.0	15.0	---	17.0	21.0	20.0	28.0	30.0	---	27.0
11	22.0	---	12.0	15.0	11.0	16.0	20.0	---	28.0	30.0	32.0	27.0
12	23.0	---	11.0	15.0	11.0	17.0	18.0	18.0	29.0	30.0	33.0	26.0
13	22.0	14.0	11.0	---	13.0	18.0	---	22.0	27.0	---	31.0	26.0
14	---	14.0	11.0	17.0	15.0	18.0	19.0	22.0	26.0	30.0	31.0	---
15	22.0	14.0	11.0	16.0	16.0	18.0	20.0	21.0	---	30.0	31.0	27.0
16	22.0	14.0	---	15.0	---	---	20.0	22.0	25.0	30.0	30.0	27.0
17	21.0	15.0	12.0	15.0	---	15.0	22.0	25.0	28.0	30.0	---	27.0
18	22.0	---	13.0	16.0	---	16.0	18.0	---	26.0	32.0	28.0	28.0
19	23.0	16.0	---	14.0	15.0	15.0	23.0	26.0	28.0	32.0	26.0	27.0
20	22.0	14.0	14.0	---	13.0	16.0	---	26.0	28.0	---	28.0	27.0
21	---	11.0	14.0	14.0	14.0	18.0	23.0	26.0	28.0	32.0	28.0	---
22	19.0	---	---	14.0	12.0	18.0	20.0	22.0	---	32.0	29.0	19.0
23	19.0	11.0	---	13.0	12.0	---	18.0	23.0	30.0	33.0	28.0	24.0
24	18.0	11.0	12.0	12.0	---	18.0	17.0	20.0	29.0	32.0	---	25.0
25	18.0	---	---	12.0	13.0	17.0	18.0	---	29.0	33.0	29.0	26.0
26	19.0	11.0	12.0	12.0	14.0	17.0	21.0	---	30.0	32.0	30.0	26.0
27	19.0	12.0	12.0	---	15.0	16.0	---	24.0	31.0	---	30.0	27.0
28	---	12.0	13.0	13.0	14.0	16.0	23.0	22.0	31.0	33.0	30.0	---
29	18.0	12.0	12.0	14.0	14.0	17.0	19.0	25.0	---	31.0	31.0	26.0
30	15.0	11.0	---	15.0	---	---	19.0	25.0	30.0	33.0	30.0	26.0
31	15.0	---	11.0	15.0	---	16.0	---	24.0	---	34.0	---	---
MEAN	21.0	13.5	12.0	14.0	13.5	16.5	19.5	23.0	27.5	31.5	30.0	26.5
MAX	26.0	17.0	14.0	17.0	16.0	18.0	23.0	26.0	31.0	34.0	33.0	30.0
MIN	15.0	11.0	10.0	12.0	11.0	15.0	15.0	18.0	24.0	29.0	26.0	19.0

WTR YR 1980 MEAN 21.0 MAX 34.0 MIN 10.0

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 29,79	APR 18,80	JUN 5,80	JUL 10,80
TIME	0815	0930	1000	0800
TOTAL CELLS/ML	8900	52000	490000	180000
DIVERSITY: DIVISION	0.9	1.5	0.8	1.4
.CLASS	0.9	1.5	0.8	1.4
..ORDER	0.0	2.2	1.2	1.8
...FAMILY	0.0	2.5	2.2	2.0
....GENUS	0.0	2.9	2.4	2.0

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	41000	8	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	*	0	*	0
....MICRACTINIUM	--	-	5200#	16	260000#	54	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	190	1	*	0	1200	1
....CHLORELLA	770	9	--	-	--	-	--	-
....CHODATELLA	70	1	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	740	2	32000	7	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	*	0	*	0
....SELENASTRUM	--	-	740	2	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	1200	13	740	2	14000	3	19000	11
....TETRASTRUM	--	-	740	2	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	210	2	1900	6	*	0	*	0
...PHACOTACEAE								
....PTEROMONAS	70	1	--	-	--	-	--	-
...VOLVOCACEAE								
....GONIUM	--	-	--	-	18000	4	--	-
....PANDORINA	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...DISCINODISCACEAE								
....CYCLOTELLA	5700#	64	9700#	30	67000	14	93000#	52
....MELOSTRA	--	-	370	1	--	-	--	-
....STEPHANODISCUS	--	-	1500	5	19000	4	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	350	4	--	-	6900	1	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	14000	3	--	-
....SYNEDRA	70	1	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	70	1	--	-	--	-	*	0
....NEIDIUM	--	-	--	-	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	350	4	6100#	19	9200	2	930	1
...SURIRELLACEAE								
....SURIRELLA	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE	70	1	--	-	--	-	--	-
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	190	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	4100	13	--	-	28000#	16
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	7400	4
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	--	-	28000#	16
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	190	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	AUG 28,80		SEP 11,80		SEP 25,80	
TIME	0930		0830		0815	
TOTAL CELLS/ML	91000		32000		63000	
DIVERSITY: DIVISION	1.5		1.5		0.8	
.CLASS	1.5		1.5		0.8	
..ORDER	2.0		1.8		1.0	
...FAMILY	2.5		2.1		1.6	
....GENUS	2.5		2.1		1.9	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	*	0	*	0	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	1400	4	--	-
...MICRACTINIACEAE						
....GOLENKINIA	1100	1	*	0	410	1
....MICRACTINIUM	2100	2	--	-	4500	7
...OOCYSTACEAE						
....ANKISTRODESMUS	*	0	*	0	1000	2
....CHLORELLA	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	200	1	--	-
....OOCYSTIS	--	-	--	-	1000	2
....SELENASTRUM	--	-	--	-	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	34000#	38	10000#	31	42000#	67
....TETRASTRUM	--	-	--	-	2400	4
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	2700	3	400	1	810	1
...PHACOTACEAE						
....PTEROMONAS	--	-	--	-	--	-
...VOLVOCACEAE						
....GONIUM	--	-	--	-	--	-
....PANDORINA	2700	3	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	15000#	17	4200	13	6500	10
....MELOSIRA	--	-	--	-	410	1
....STEPHANODISCUS	*	0	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....SYNEDRA	--	-	300	1	--	-
...NAVICULACEAE						
....NAVICULA	*	0	*	0	410	1
....NEIDIUM	*	0	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	2100	2	1000	3	1000	2
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE	--	-	--	-	--	-
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	*	0
...CRYPTOMONADACEAE						
....CRYPTOMONAS	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	2700	3	200	1	410	1
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	24000#	26	--	-	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	2400	3	14000#	43	1600	3
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	*	0	--	-
....TRACHELOMONAS	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09519500 GILA RIVER BELOW GILLESPIE DAM, AZ

LOCATION.--Lat 33°13'45", long 112°46'00", in SE¼NE¼ sec.28, T.2 S., R.5 W., Maricopa County, Hydrologic Unit 15070101, at left end of Gillespie Dam, 8 mi (13 km) downstream from Hassayampa River.

DRAINAGE AREA.--49,650 mi^2 (128,600 km^2).

PERIOD OF RECORD.--August 1921 to current year. Low-flow records prior to October 1970 are not equivalent as leakage of less than 5 ft^3/s (0.14 m^3/s) not included, and from October 1971 to September 1973, when no leakage was included. Annual estimate of leakage was listed in REMARKS for the 1972 water year. Prior to 1939, published as "at Gillespie Dam."

REVISED RECORDS.--WSP 1213: 1939. WSP 1243: 1924(M). WSP 1926: Drainage area.

GAGE.--Water-stage recorder since July 28, 1924. Datum of gage is 9.95 ft (3.033 m) below average elevation of crest of dam, which is 753.46 ft (229.655 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1924, depth of water read on crest at left end of dam. Nov. 11, 1924, to July 22, 1932, datum of gage was at average elevation of dam crest. July 23, 1932, to Apr. 27, 1955, datum of gage was 5.00 ft (1.524 m) below average elevation of crest of dam. Since Apr. 2, 1974, supplementary water-stage recorder and concrete control 70 ft (21.3 m) downstream from crest of dam at datum 5.64 ft (1.719 m) lower than datum of base gage.

REMARKS.--Records good except those below 1,000 ft^3/s (28.3 m^3/s), which are poor. Flow consists of water passing over the dam, and through the dam, but does not include water diverted to Gila Bend or Enterprise Canals. See sta 09518000, Gila River above diversions, at Gillespie Dam, for records of flow reaching dam, and of diversions to Gila Bend and Enterprise Canals.
For diversions and regulation above station, see REMARKS for sta 09518000.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 178,000 ft^3/s (5,040 m^3/s) Feb. 16, 1980, gage height, 18.81 ft (5.733 m), present datum; probably no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1891, 250,000 ft^3/s (7,100 m^3/s), estimated, in February 1891.

EXTREMES FOR CURRENT YEAR.--Maximum discharge (*) and peak discharges above base of 1,000 ft^3/s (28.3 m^3/s):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 30	2115	1,390	39.4	10.48	3.194	Feb. 20	1800	126,000	3,570	17.05	5.197
Feb. 4	1445	8,630	244	11.52	3.511	Feb. 22	1445	117,000	3,310	16.72	5.096
Feb. 16	1830	*178,000	5,040	18.81	5.733						

Minimum daily, 20 ft^3/s (0.57 m^3/s) May 21 to July 25, July 27 to Aug. 24, Sept. 1-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	77	75	71	1910	10100	1230	413	20	20	20	20
2	72	68	88	66	6940	10100	1400	549	20	20	20	20
3	88	66	88	72	7980	10100	1400	1370	20	20	20	20
4	100	66	88	73	8380	9320	1460	1540	20	20	20	20
5	111	67	88	78	8180	7510	1880	1480	20	20	20	20
6	116	70	88	82	5790	4740	1870	1480	20	20	20	20
7	111	70	88	111	5040	1720	1850	854	20	20	20	20
8	125	70	88	107	4870	1050	1850	510	20	20	20	20
9	149	72	88	129	4790	717	1780	325	20	20	20	20
10	136	82	103	189	4250	549	1660	292	20	20	20	20
11	136	86	104	169	1340	631	1540	231	20	20	20	20
12	119	86	89	169	610	717	1480	261	20	20	20	20
13	124	83	89	170	473	631	1430	151	20	20	20	20
14	120	75	104	174	381	590	1480	231	20	20	20	20
15	116	73	104	178	9420	590	1480	203	20	20	20	20
16	116	73	89	177	112000	549	1210	292	20	20	20	20
17	114	77	104	177	124000	510	717	231	20	20	20	20
18	114	88	120	178	83900	789	470	128	20	20	20	20
19	110	83	120	140	88700	837	359	107	20	20	20	20
20	108	69	105	141	98300	792	325	55	20	20	20	20
21	102	67	75	160	93300	792	395	20	20	20	20	20
22	96	69	75	157	108000	744	470	20	20	20	20	20
23	97	72	78	158	78900	432	470	20	20	20	20	20
24	92	75	81	158	59700	359	470	20	20	20	20	20
25	91	79	112	178	56000	395	432	20	20	20	150	20
26	88	83	117	178	38300	359	395	20	20	70	150	20
27	87	82	110	158	18400	359	325	20	20	20	150	20
28	92	84	91	158	13800	261	231	20	20	20	150	20
29	96	63	91	122	12900	176	176	20	20	20	150	20
30	97	44	115	546	---	231	243	20	20	20	150	20
31	91	---	77	542	---	901	---	20	---	20	150	---
TOTAL	3280	2219	2932	5186	1056554	67551	30478	10923	600	670	1530	600
MEAN	106	74.0	94.6	167	36430	2179	1016	352	20.0	21.6	49.4	20.0
MAX	149	88	120	546	124000	10100	1880	1540	20	70	150	20
MIN	66	44	75	66	381	176	176	20	20	20	20	20
AC-FT	6510	4400	5820	10290	2096000	134000	60450	21670	1190	1330	3030	1190

CAL YR 1979	TOTAL	1022097.1	MEAN	2800	MAX	79300	MIN 5.0	AC-FT 2027000
WTR YR 1980	TOTAL	1182523.0	MEAN	3231	MAX	124000	MIN 20	AC-FT 2346000

09519800 GILA RIVER BELOW PAINTED ROCK DAM, AZ

LOCATION.--Lat 33°04'30", long 113°00'50", in SE¼ sec.18, T.4 S., R.7 W., Maricopa County, Hydrologic Unit 15070201, on left bank 0.3 mi (0.5 km) downstream from Painted Rock Dam and 19 mi (31 km) northeast of Sentinel.

DRAINAGE AREA.--50,910 mi^2 (131,860 km^2), approximately.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 518.69 ft (158.097 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Auxiliary gage May 5, 1969, to Mar. 30, 1973, at site 0.3 mi (0.5 km) upstream, at datum 2.87 ft (0.875 m) higher; Feb. 8, 1979 to current year, at site 0.3 mi (0.5 km) upstream, at same datum.

REMARKS.--Records fair. Many diversions above station for irrigation. Flow above station regulated by many reservoirs, the largest of which is Painted Rock Reservoir—capacity, 2,492,000 acre-ft (3,070 hm^3). (See REMARKS for sta 09518000, Gila River above diversions, at Gillespie Dam.)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,060 ft^3/s (143 m^3/s) Sept. 17, 1980, gage height, 10.02 ft (3.054 m) maximum gage height, 10.57 ft (3.222 m) Feb. 9, 1979; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft^3/s (143 m^3/s) Sept. 17, gage height, 10.02 ft (3.054 m) maximum gage height, 10.54 ft (3.213 m) June 17; no flow Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2790	2810	2980	2850	40	3130	4040	4190	4020	298	4760	3900
2	2800	2810	2900	2840	80	3250	4250	4210	4140	298	4720	4010
3	2860	2780	2960	2860	80	3550	4250	4400	4370	1160	4480	4210
4	2840	2680	2920	2920	80	3680	4220	4260	4290	2360	4510	4260
5	2830	2780	2930	2890	80	3690	4230	4270	4220	2260	4740	4350
6	2830	2720	2960	2870	220	3710	4110	4360	4190	2200	4760	4380
7	2820	2770	2940	2850	1030	3740	4220	3940	4160	2280	4760	4260
8	2820	2770	2920	2860	1120	3930	4230	4160	4070	2500	4750	4330
9	2790	2770	2900	2940	1120	3860	4110	4160	4110	2500	4630	4480
10	2750	2760	2870	2880	1120	4110	4320	4110	4220	2560	4390	4620
11	2800	2760	2850	2840	1180	3950	4400	3970	4250	2720	4380	4810
12	2790	2760	2850	2750	1390	3630	4230	4160	4320	3050	4580	4890
13	2760	2760	2850	2690	1370	3570	4020	4260	4400	3000	4580	4760
14	2780	2750	2900	2610	1340	3570	4190	4120	4350	3030	4620	4620
15	2790	2750	2860	2560	1510	3590	4280	3980	4230	3460	4600	4720
16	2780	2750	2860	2490	2220	3570	4160	4090	4260	3800	4600	5000
17	2760	2750	2860	2430	2380	3550	4160	4210	4360	3830	4450	5020
18	2750	2750	2840	2390	2410	3570	4180	4110	2580	3970	4500	4920
19	2720	2740	2830	2360	2650	3540	4040	4140	120	4140	4630	4890
20	2740	2740	2850	2320	2870	3550	4010	4290	75	4120	4610	4790
21	2700	2800	2900	2300	2830	3790	3980	4230	279	4070	4610	4450
22	2790	2800	2890	2340	2800	3860	4250	4250	304	4200	4580	4380
23	2840	2830	2890	2400	2830	3570	4230	4250	191	4360	4510	4780
24	2830	2780	2890	2330	2860	3680	4250	4210	37	4440	4360	4750
25	2810	2790	2840	2200	2670	4020	4250	4050	75	4480	4390	4700
26	2810	2810	2850	1100	2690	4040	4180	3930	256	4500	4350	4690
27	2800	2810	2890	50	2660	4110	4040	4060	277	4330	4280	4810
28	2790	2810	2830	50	2760	4150	4140	4260	247	4350	4210	4780
29	2800	2820	2910	50	3000	3940	4280	4180	214	4520	4150	4750
30	2800	2900	2900	21	---	3720	4280	4180	244	4520	4120	4760
31	2800	---	2890	.00	---	3890	---	4140	---	4570	4000	---
TOTAL	86570	83310	89510	67041.00	49390	115490	125530	129130	76859	101876	139610	138070
MEAN	2793	2777	2887	2163	1703	3725	4184	4165	2562	3286	4504	4602
MAX	2860	2900	2980	2940	3000	4150	4400	4400	4400	4570	4760	5020
MIN	2700	2680	2830	.00	40	3130	3980	3930	37	298	4000	3900
AC-FT	171700	165200	177500	133000	97970	229100	249000	256100	152400	202100	276900	273900
(†)	436600	279300	124300	1220	1800000	1675000	1470000	1212000	1054000	844900	574300	318500

CAL YR 1979 TOTAL 1026320.00 MEAN 2812 MAX 3290 MIN 1360 AC-FT 2036000
WTR YR 1980 TOTAL 1202386.00 MEAN 3285 MAX 5020 MIN .00 AC-FT 2385000

† Contents, in acre-feet at end of month in Painted Rock Reservoir. Figures furnished by Corps of Engineers and rounded in accordance with Geological Survey standard practice.

09520360 GILA RIVER NEAR MOHAWK, AZ

LOCATION.--Lat 32°47'18", long 113°45'48", on section line between sec.25 and 26, T.7 S., R.15 W., Yuma County, Hydrologic Unit 15070201, in center of channel, 70 ft (21 m) upstream from Avenue 51E, and 4.0 mi (6.4 km) north of Mohawk.

DRAINAGE AREA.--55,430 mi^2 (143,560 km^2), approximately.

PERIOD OF RECORD.--February to April 1966 (published in WSP 1850-C), April 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 300 ft (91.4 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Painted Rock Dam; capacity of reservoir at Painted Rock Dam is 2,492,000 acre-ft or 3,070 hm^3, (see REMARKS for sta 09519800). Release flow from Painted Rock Dam reached this station in water years 1966, 1973, 1974, 1979, and 1980.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,270 ft^3/s (121 m^3/s) Apr. 30, 1980, gage height, 11.28 ft (3.438 m); maximum gage height, 12.0 ft (3.66 m) Mar. 14, 1980; no flow most of time most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,270 ft^3/s (121 m^3/s) Apr. 30, gage height, 11.28 ft (3.438 m); maximum gage height, 12.0 ft (3.66 m) Mar. 14; minimum daily discharge, 203 ft^3/s (5.75 m^3/s) Feb. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2520	2450	2450	2520	470	2460	3950	4140	4130	245	3670	3430
2	2530	2480	2430	2510	382	2560	3900	4210	4120	225	3660	3420
3	2500	2510	2460	2490	531	2730	3890	4250	4120	231	3710	3370
4	2530	2540	2510	2470	294	2840	4030	4220	4040	247	3810	3320
5	2500	2540	2490	2460	266	2930	4090	4110	4030	270	3780	3450
6	2510	2530	2500	2470	238	3060	4180	4160	4180	899	3590	3570
7	2500	2490	2480	2500	220	3250	4200	4120	4220	1790	3600	3620
8	2500	2540	2480	2490	203	3300	4200	4030	4190	2020	3760	3630
9	2500	2530	2490	2490	241	3500	4160	4080	4150	2100	3780	3650
10	2500	2530	2500	2530	466	3500	4120	4020	4150	2250	3770	3560
11	2500	2520	2500	2510	660	3500	4150	4010	4050	2350	3780	3590
12	2490	2510	2480	2530	755	3550	4080	4070	4000	2400	3700	3680
13	2480	2510	2450	2520	817	3600	4080	4100	4060	2410	3520	3780
14	2490	2490	2440	2520	957	3700	4180	4040	4090	2590	3530	3900
15	2480	2460	2460	2490	1130	3550	4220	4010	4110	2730	3610	3940
16	2470	2470	2460	2450	1180	3350	4150	4150	4190	2750	3670	3890
17	2480	2510	2480	2400	1230	3300	4110	4150	4180	2810	3720	3800
18	2490	2520	2470	2360	1490	3300	4210	4040	4070	3010	3680	3860
19	2490	2500	2470	2300	1920	3300	4230	4020	4000	3170	3640	4020
20	2470	2460	2470	2230	2090	3300	4200	4140	3990	3200	3530	4090
21	2440	2450	2450	2180	2210	3350	4200	4090	1700	3310	3540	4080
22	2420	2460	2440	2160	2440	3400	4100	4020	794	3430	3630	4060
23	2440	2470	2440	2120	2510	3650	3970	4100	520	3430	3640	4040
24	2450	2500	2470	2110	2540	3650	3950	4080	479	3460	3640	3800
25	2500	2510	2480	2140	2520	3850	4120	4060	461	3580	3630	3840
26	2550	2520	2490	2180	2570	3800	4170	4110	402	3690	3630	4060
27	2550	2500	2490	2130	2590	3800	4180	4120	321	3740	3540	4110
28	2560	2480	2460	2050	2490	3850	4180	4030	280	3760	3500	4100
29	2540	2470	2460	1610	2470	3900	4200	3920	291	3760	3520	4120
30	2490	2460	2480	907	---	4000	4230	3930	276	3640	3490	4130
31	2450	---	2520	608	---	4000	---	4100	---	3610	3450	---
TOTAL	77320	74910	76650	69435	37680	105830	123630	126630	87594	77107	112720	113910
MEAN	2494	2497	2473	2240	1299	3414	4121	4085	2920	2487	3636	3797
MAX	2560	2540	2520	2530	2590	4000	4230	4250	4220	3760	3810	4130
MIN	2420	2450	2430	608	203	2460	3890	3920	276	225	3450	3320
AC-FT	153400	148600	152000	137700	74740	209900	245200	251200	173700	152900	223600	225900

CAL YR 1979 TOTAL 835657.9 MEAN 2289 MAX 3050 MIN 4.9 AC-FT 1658000
WTR YR 1980 TOTAL 1083416.0 MEAN 2960 MAX 4250 MIN 203 AC-FT 2149000

09520500 GILA RIVER NEAR DOME, AZ

LOCATION.--Lat 32°45'39", long 114°25'11", in SW¼ sec.4, T.8 S., R.21 W., Yuma County, Hydrologic Unit 15070201, on right bank 440 ft (134 m) upstream from McPhal bridge on old route of State Highway 95, 3 mi (5 km) west of Dome, and 12 mi (19 km) upstream from mouth.

DRAINAGE AREA.--57,850 mi^2 (149,800 km^2), approximately—includes 373 mi^2 (966 km^2) in Aubrey Valley Playa, a closed basin, but excludes all other closed basins.

PERIOD OF RECORD.--January 1903 to current year. Monthly total, maximum, and minimum daily discharges only for January 1903 to December 1904 and January 1906 to July 1929 in WSP 918 or WSP 1313. Published as "at Yuma and Gila City" 1903, as "near Dome." 1904, and as "at Dome (Gila City)" 1905-6. Records for 1907-29 are published in WSP 918 as "at Yuma and at and near Dome." as "at Dome (Gila City)" 1905-6. Records for 1907-29 are published in WSP 918 as "at Yuma and at and near Dome."

REVISED RECORDS.--WSP 918: 1905. WSP 1733: July 1942. WSP 1926: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 148.18 ft (45.165 m) National Geodetic Vertical Datum of 1929. Prior to October 1903 and January 1907 to April 1929, no gage; discharge estimated. October 1903 to December 1906, principal nonrecording gage 4 mi (6 km) upstream at datum 158.37 ft (48.271 m) National Geodetic Vertical Datum of 1929, supplemented by many nonrecording gages at different datums.

REMARKS.--Records fair. Many diversions above station for irrigation. Flow above station regulated by reservoirs at and above Painted Rock Dam; capacity of reservoir at Painted Rock Dam is 2,492,000 acre-ft or 3,070 hm^2 (see also REMARKS for sta 09518000). Most of flow for 1966, 1973, 1979, and 1980 water years was release flow from Painted Rock Dam.

EXTREMES FOR PERIOD OF RECORD.--1903-80: Maximum daily discharge, 200,000 ft^3/s (5,700 m^3/s), roughly estimated, Jan. 22, 1916. 1929-80: Maximum discharge, 20,700 ft^3/s (586 m^3/s) Feb. 15, 1932, gage height, 16.75 ft (5.105 m); no flow for part or all of each year except for 1961-62, 1968-73, 1975, 1977, and 1980 water years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,080 ft^3/s (116 m^3/s) Sept. 24, gage height, 6.94 ft (2.115 m), maximum gage height, 10.16 ft (3.097 m) Nov. 1, 12, and 13 (prior to further extensive scouring of channel); minimum daily discharge, 400 ft^3/s (11.3 m^3/s) July 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2260	2230	2270	2210	1470	2580	3410	3770	3360	430	3110	3180
2	2280	2220	2290	2210	1040	2630	3450	3790	3270	410	3060	3140
3	2290	2180	2300	2240	847	2610	3480	3790	3300	410	2990	3130
4	2280	2130	2270	2290	742	2590	3490	3800	3370	400	2990	3140
5	2230	2120	2240	2310	682	2600	3440	3800	3390	400	3000	3140
6	2230	2150	2270	2320	627	2680	3390	3830	3370	400	3010	3130
7	2230	2220	2310	2300	580	2770	3410	3860	3360	410	3080	3120
8	2230	2270	2320	2270	550	2870	3470	3850	3300	570	3120	3160
9	2250	2250	2300	2250	514	2980	3540	3790	3330	850	3070	3270
10	2240	2240	2290	2290	484	3140	3580	3730	3390	930	2950	3320
11	2240	2260	2290	2320	479	3260	3560	3670	3400	980	3020	3370
12	2210	2300	2290	2350	548	3310	3590	3590	3380	1100	3080	3380
13	2180	2310	2310	2370	642	3360	3600	3630	3330	1270	3090	3380
14	2150	2300	2280	2380	723	3400	3610	3610	3280	1420	3090	3310
15	2120	2290	2270	2370	790	3470	3630	3590	3240	1520	3090	3380
16	2100	2290	2260	2370	871	3490	3610	3580	3230	1600	3040	3580
17	2110	2270	2250	2360	974	3520	3650	3570	3230	1720	2950	3660
18	2110	2260	2230	2320	1060	3550	3720	3520	3260	1870	2990	3800
19	2090	2260	2220	2300	1140	3510	3740	3540	3270	1900	3040	3740
20	2090	2270	2220	2270	1250	3450	3700	3610	3250	1960	3060	3670
21	2070	2300	2200	2240	1400	3400	3700	3600	3230	2100	3050	3670
22	2080	2300	2170	2220	1600	3360	3740	3540	3180	2260	3100	3730
23	2080	2280	2170	2170	1800	3340	3780	3510	2850	2370	3120	3940
24	2070	2270	2180	2100	1990	3340	3770	3490	1200	2430	3150	4010
25	2060	2280	2180	2050	2180	3350	3760	3450	900	2580	3060	3990
26	2050	2270	2210	2010	2280	3320	3680	3450	750	2690	3170	3940
27	2040	2260	2260	1970	2370	3320	3590	3450	650	2780	3270	3750
28	2080	2280	2310	1950	2450	3350	3610	3440	570	2870	3210	3680
29	2150	2290	2310	1960	2530	3350	3680	3440	520	2950	3120	3780
30	2200	2270	2270	1950	---	3320	3740	3460	480	3030	3130	3830
31	2220	---	2230	1860	---	3320	---	3440	---	3060	3110	---
TOTAL	67020	67620	69970	68580	34613	98540	108120	112190	80640	49670	95320	105320
MEAN	2162	2254	2257	2212	1194	3179	3604	3619	2688	1602	3075	3511
MAX	2290	2310	2320	2380	2530	3550	3780	3860	3400	3060	3270	4010
MIN	2040	2120	2170	1860	479	2580	3390	3440	480	400	2950	3120
AC-FT	132900	134100	138800	136000	68650	195500	214500	222500	159900	98520	189100	208900

CAL YR 1979 TOTAL 727513.25 MEAN 1993 MAX 3060 MIN .00 AC-FT 1443000
WTR YR 1980 TOTAL 957603.00 MEAN 2616 MAX 4010 MIN 400 AC-FT 1899000

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ
(National stream-quality accounting network station)

LOCATION.--Lat 32°42'38", long 114°33'06", in NW¼NE¼ sec.30, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, on left bank just upstream from South Gila Pump Outlet Channel No. 1, 0.6 mi (1.0 km) upstream from mouth, and 4 mi (6 km) east of Yuma.

DRAINAGE AREA.--57,950 mi^2 (150,090 km^2), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1975 to current year.

GAGE.--Water-stage recorder and weir. Datum of gage is 122.01 ft (37.189 m) U.S. Bureau of Reclamation datum.

REMARKS.--Records fair. Flow above station regulated by reservoirs at and above Painted Rock Dam; capacity of reservoir at Painted Rock Dam is 2,492,000 acre-ft or 3,070 hm^3, (see also REMARKS for sta 09518000). Return flows from North and South Gila Valley (stas 09529050 to 09529250), M.O.D.E. 1 and additional releases in September 1980 (sta 09529300) that enter the Gila River between sta 09520500 and this station are shown elsewhere in this report. Most of the flow this year was release flow from Painted Rock Dam. Daily discharge is obtained by combining flow past gage with flow for South Gila Pump Outlet Channel No. 1 (see sta 09529360) so as to give total flow of Gila River at mouth.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,720 ft^3/s (105 m^3/s) Sept. 24, 1980; minimum daily, 36 ft^3/s (1.02 m^3/s) Nov. 7, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,720 ft^3/s (105 m^3/s) Sept. 24; minimum daily, 462 ft^3/s (13.1 m^3/s) Feb. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1930	1950	2160	2120	1720	2160	2950	3420	3110	774	2860	3230
2	1900	1980	2180	2100	1250	2200	2960	3470	3070	783	2880	3220
3	1920	1990	2160	2110	931	2200	3000	3420	3120	770	2850	3230
4	1900	1930	2180	2120	805	2160	3060	3340	3190	675	2880	3240
5	1900	1920	2170	2130	743	2170	3050	3280	3200	651	2910	3280
6	1910	1950	2180	2140	695	2230	3050	3250	3190	660	2970	3290
7	1920	2010	2180	2140	700	2320	3030	3270	3210	655	3020	3230
8	1900	2040	2200	2150	604	2370	3060	3250	3200	722	3100	3250
9	1910	2090	2180	2090	497	2420	3090	3250	3180	884	3090	3340
10	1920	2080	2180	2110	462	2540	3150	3140	3300	995	3040	3380
11	1910	2120	2200	2150	482	2600	3140	3070	3340	1120	3080	3390
12	1950	2140	2140	2150	579	2640	3130	3110	3300	1230	3140	3370
13	1970	2160	2160	2150	700	2690	3120	3160	3270	1310	3180	3410
14	1950	2150	2160	2180	794	2750	3070	3150	3240	1330	3180	3350
15	1910	2140	2120	2200	858	2780	3050	3160	3220	1390	3160	3340
16	1940	2150	2110	2190	926	2820	3070	3120	3220	1430	3140	3440
17	1930	2120	2120	2190	996	2850	3160	3130	3220	1580	3100	3490
18	1930	2110	2110	2200	1060	2940	3210	3150	3260	1730	3110	3580
19	1930	2120	2100	2150	1130	2900	3290	3130	3270	1830	3160	3550
20	1930	2130	2120	2130	1220	2870	3310	3090	3290	2020	3190	3540
21	1930	2150	2110	2120	1330	2880	3310	3090	3250	2210	3230	3500
22	1930	2140	2080	2120	1500	2870	3340	3050	3210	2300	3220	3540
23	1910	2130	2100	2130	1640	2890	3400	3020	3100	2410	3190	3620
24	1900	2150	2090	2100	1760	2890	3370	2980	1900	2450	3210	3720
25	1890	2160	2080	2050	1860	2910	3380	2960	1350	2540	3250	3710
26	1890	2180	2090	2020	1930	2960	3360	3000	1100	2620	3230	3700
27	1880	2130	2150	1990	2000	2980	3330	3040	909	2650	3300	3660
28	1860	2160	2200	1990	2060	3030	3280	3090	869	2670	3350	3550
29	1890	2130	2200	1960	2120	3070	3300	3100	838	2670	3250	3610
30	1930	2170	2140	2000	---	3040	3350	3100	809	2750	3230	3590
31	1920	---	2130	1970	---	2960	---	3130	---	2800	3230	---
TOTAL	59390	62780	66480	65330	33352	83110	95370	97920	81735	50609	96730	103350
MEAN	1916	2093	2145	2107	1150	2681	3179	3159	2725	1633	3120	3445
MAX	1970	2180	2200	2200	2120	3070	3400	3470	3340	2800	3350	3720
MIN	1860	1920	2080	1960	462	2160	2950	2960	809	651	2850	3220
AC-FT	117800	124500	131900	129600	66150	164800	189200	194200	162100	100400	191900	205000

CAL YR 1979 TOTAL 654869 MEAN 1794 MAX 2580 MIN 47 AC-FT 1299000
WTR YR 1980 TOTAL 896156 MEAN 2449 MAX 3720 MIN 462 AC-FT 1778000

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1979 to current year.

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 5,570 micromhos Jan. 1, 1979; minimum observed, 756 micromhos Mar. 22, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 2,400 micromhos Feb. 13; minimum observed, 756 micromhos Mar. 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT											
17...	1100	1950	1010	7.7	28.5	23.0	3.8	7.1	220	140	190
NOV											
15...	1130	2440	1080	8.1	27.0	14.5	36	9.6	--	--	210
DEC											
12...	1030	2280	1190	7.7	12.0	11.0	57	11.0	30	80	210
JAN											
10...	1130	2110	1340	7.6	18.5	12.5	24	10.0	60	64	240
FEB											
13...	1130	711	2500	7.9	14.0	14.5	50	9.0	33	156	420
MAR											
12...	1200	2650	850	7.8	21.0	17.0	220	8.6	210	1060	160
APR											
08...	1130	3100	840	7.6	30.0	21.0	92	--	97	680	160
MAY											
13...	1130	3150	890	7.9	27.5	22.0	83	--	--	220	170
JUN											
11...	1230	3350	900	--	39.0	26.5	68	6.2	50	172	180
JUL											
08...	1100	676	2150	8.1	40.5	28.0	120	6.2	--	540	370
AUG											
12...	1200	3150	870	7.3	40.5	31.0	72	6.6	--	940	180
SEP											
09...	1100	3360	990	7.6	32.0	27.0	68	7.5	290	216	200

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT											
17...	64	48	18	130	4.1	5.9	130	110	170	.6	7.8
NOV											
15...	77	50	20	140	4.2	5.8	130	150	180	.6	6.9
DEC											
12...	80	51	20	150	4.5	5.8	130	110	190	.0	5.8
JAN											
10...	97	57	23	180	5.1	6.5	140	150	230	.6	4.0
FEB											
13...	230	93	46	350	7.4	8.3	190	300	460	.7	5.7
MAR											
12...	41	43	13	94	3.2	4.1	120	100	110	.5	14
APR											
08...	43	44	13	86	2.9	4.1	120	89	99	.5	19
MAY											
13...	43	46	14	100	3.3	4.5	130	91	130	.4	13
JUN											
11...	39	47	15	96	3.1	4.4	140	84	130	.4	14
JUL											
08...	170	92	34	270	6.1	8.3	200	240	380	.7	17
AUG											
12...	52	48	15	110	3.6	5.4	130	90	150	.6	13
SEP											
09...	56	49	18	130	4.0	5.8	140	110	170	.6	11

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)
OCT											
17...	586	569	.80	.12	.01	.01	.01	.47	.40	.48	.07
NOV											
15...	602	632	.82	.09	.10	.02	.12	1.3	.67	1.4	.71
DEC											
12...	638	611	.87	.08	.04	.01	.05	1.1	.53	1.1	.56
JAN											
10...	752	736	1.02	.09	.07	.00	.08	1.0	.80	1.1	.30
FEB											
13...	1430	1380	1.94	.09	.11	.01	.13	3.7	.61	3.8	3.2
MAR											
12...	462	454	.63	.64	.06	.00	.07	.94	.45	1.0	.55
APR											
08...	504	431	.69	.95	.13	.00	.16	2.1	.54	2.2	1.7
MAY											
13...	488	478	.66	.19	.04	.01	.05	.53	.59	.57	.00
JUN											
11...	483	475	.66	.09	.04	.00	.05	.84	.61	.88	.27
JUL											
08...	1230	1160	1.67	.03	.00	.00	.00	1.4	.57	1.4	.83
AUG											
12...	522	510	.71	.03	.02	.00	.02	1.1	.39	1.1	.71
SEP											
09...	625	579	.85	.00	.30	.33	.36	.67	.35	.97	.29

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT											
17...	.41	.63	.53	2.8	.130	.40	.030	.03	.09	--	--
NOV											
15...	.69	1.5	.78	6.7	.010	.03	.160	--	--	6	5
DEC											
12...	.54	1.2	.62	5.3	.110	.34	.010	--	--	--	--
JAN											
10...	.80	1.2	.89	5.2	.050	.15	.010	--	--	--	--
FEB											
13...	.62	3.8	.71	17	.440	1.4	.050	--	--	8	4
MAR											
12...	.45	1.6	1.1	7.2	.500	1.5	.100	--	--	--	--
APR											
08...	.54	2.5	1.5	11	.330	1.0	.090	--	--	--	--
MAY											
13...	.60	.77	.79	3.4	.300	.92	.070	--	--	9	8
JUN											
11...	.61	.99	.70	4.4	.220	.67	.080	--	--	--	--
JUL											
08...	.57	1.4	.60	6.2	.350	1.1	.010	--	--	--	--
AUG											
12...	.39	1.1	.42	4.9	.280	.86	.090	--	--	11	11
SEP											
09...	.68	.99	.68	4.4	.230	.71	.060	--	--	--	--

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
OCT											
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
15...	300	70	2	<1	0	0	0	<3	7	0	2000
DEC											
12...	--	--	--	<1	--	--	--	<3	--	--	--
JAN											
10...	--	--	--	--	--	--	--	--	--	--	--
FEB											
13...	400	400	0	<1	0	0	2	<3	11	0	1800
MAR											
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	--	--	--	--	--	--	--	--	--	--	--
MAY											
13...	†0	60	0	<1	0	0	3	<3	19	5	4900
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	100	70	0	†3	20	10	0	<3	46	6	4000
SEP											
09...	--	--	--	--	--	--	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
OCT											
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
15...	20	6	0	150	20	.0	.0	7	0	0	0
DEC											
12...	--	--	--	--	--	--	--	--	--	--	--
JAN											
10...	--	--	--	--	--	--	--	--	--	--	--
FEB											
13...	10	8	0	360	90	.3	.2	9	3	2	1
MAR											
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
08...	--	--	--	--	--	--	--	--	--	--	--
MAY											
13...	80	9	0	220	20	.0	.0	11	10	1	1
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	10	18	3	220	10	.0	.0	9	3	1	1
SEP											
09...	--	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.
† Value verified.

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
17...	--	--	--	--	7.9	--	--	--	136	716	67
NOV											
15...	0	0	20	6	--	5.1	.4	23000	292	1920	30
DEC											
12...	0	--	--	--	9.0	--	--	--	137	843	56
JAN											
10...	--	--	--	--	8.4	--	--	--	--	--	--
FEB											
13...	0	0	10	10	--	14	12	--	120	230	82
MAR											
12...	0	--	--	--	--	--	--	2500	--	--	--
APR											
08...	--	--	--	--	10	--	--	--	--	--	--
MAY											
13...	0	0	30	<3	--	10	1.5	1500	--	--	--
JUN											
11...	0	--	--	--	9.9	--	--	4200	--	--	--
JUL											
08...	--	--	--	--	15	--	--	71000	--	--	--
AUG											
12...	0	0	100	<3	--	8.3	2.3	9300	--	--	--
SEP											
09...	0	--	--	--	8.3	--	--	14000	--	--	--

< Actual value is known to be less than value shown.

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				3570	980	924	970	1060	982	1030	1030	1040
2				3560	1010	928	964	1050	972	1050	1040	1040
3				3250	1020	931	965	1030	986	1060	1040	1020
4				3190	1030	924	958	1040	970	1040	1040	1020
5				3190	1040	929	958	1050	968	1040	1040	1000
6				3190	1030	956	965	1050	964	1040	1040	999
7				3170	1040	949	979	1050	957	1030	1040	982
8				3150	1040	946	970	1050	956	1020	1040	992
9				3000	1040	959	977	1040	975	1030	1030	990
10				2760	1030	974	997	1030	965	1030	1030	1010
11				2860	1020	979	998	985	968	1020	1030	1020
12				2810	1010	983	1010	1030	969	1030	1020	1030
13				2780	1000	985	1010	1020	969	1020	1000	1030
14				2820	1000	977	1010	1020	999	1030	1010	1030
15				2820	993	964	1010	1010	1010	1040	1020	1040
16				2780	1010	960	1020	1010	1020	1030	1030	1040
17				2790	1020	963	1020	1000	1020	1020	1010	1040
18				2880	1020	973	1040	1010	1040	1020	954	1030
19				1380	1000	980	1040	1020	1030	1020	953	1030
20				1170	982	966	1050	995	1020	973	1000	1040
21				1090	967	955	1050	1010	1020	1010	970	1040
22				1020	963	964	1050	1000	1010	1000	971	1050
23				967	962	947	1050	1000	1020	1050	993	1030
24				973	970	961	1050	996	1020	1040	989	1030
25				978	948	972	1050	988	1020	1040	1030	1050
26				979	945	967	1050	988	1000	1030	1020	1040
27				939	940	969	1050	990	995	1020	1020	1040
28				960	930	971	1060	981	997	1040	1030	1040
29				958	---	974	1060	981	994	1030	1090	1050
30				957	---	974	1060	958	1030	1040	1030	1050
31				973	---	973	---	966	---	1030	1040	---
MAX				3570	1040	985	1060	1060	1040	1060	1090	1050
MIN				939	930	924	958	958	956	973	953	982

WTR YR 1979 MAX 3570 MIN 924

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1060	1040	1100	1200	1970	828	763	829	853	2010	886	937
2	1060	1060	1100	1210	2150	826	768	833	843	2110	887	935
3	1040	1060	1110	1200	2210	830	766	848	845	2170	881	937
4	1050	1080	1130	1210	2150	825	767	847	862	2190	882	936
5	1060	1080	1140	1210	2140	801	777	825	851	2380	881	941
6	1070	1080	1140	1220	2180	793	763	840	846	2300	903	942
7	1070	1060	1140	1230	2180	783	763	840	844	2250	893	943
8	1080	1050	1140	1270	2270	788	767	843	848	2160	886	945
9	1070	1070	1140	1270	2340	784	776	840	847	1730	901	1020
10	1040	1070	1140	1280	2400	786	784	845	844	1190	898	1020
11	1030	1070	1140	1290	2330	762	789	838	837	1060	896	1030
12	1050	1080	1110	1320	2300	779	775	840	836	1030	899	1030
13	1030	1060	1110	1330	2400	795	774	840	831	1010	892	1040
14	1030	1040	1110	1350	2150	810	766	845	836	992	890	1050
15	1030	1040	1120	1360	1880	823	761	836	840	967	897	1060
16	1030	1060	1090	1370	1660	818	756	829	835	958	888	1060
17	1020	1050	1120	1380	1500	796	769	832	835	971	895	1080
18	1030	1080	1140	1380	1330	795	777	834	833	953	895	1090
19	1110	1070	1150	1330	1270	782	996	833	836	941	895	1080
20	1120	1080	1160	1360	1190	763	1010	830	859	936	898	1090
21	1110	1080	1170	1360	1260	761	1070	828	848	944	903	1090
22	1100	1080	1170	1390	1180	756	803	826	851	931	900	1090
23	1040	1080	1180	1400	1070	760	810	830	863	911	901	1090
24	1050	1080	1180	1460	967	759	810	845	1050	905	896	1100
25	1040	1080	1190	1480	891	760	805	840	1390	901	895	1100
26	1040	1080	1180	1480	864	764	820	842	1590	877	901	1110
27	1030	1080	1180	1500	821	760	808	843	1710	875	908	1100
28	1010	1080	1190	1560	821	765	810	832	1790	880	929	1100
29	1010	1090	1190	1590	827	766	819	836	1840	876	927	1080
30	1000	1090	1200	1670	---	768	821	839	1930	879	921	1050
31	1010	---	1200	1790	---	764	---	844	---	887	931	---
MAX	1120	1090	1200	1790	2400	830	1070	848	1930	2380	931	1110
MIN	1000	1040	1090	1200	821	756	756	825	831	875	881	935

WTR YR 1980 MAX 2400 MIN 756

GILA RIVER BASIN

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 15,79		MAR 12,80		MAY 13,80		JUN 11,80	
TIME	1130		1200		1130		1230	
TOTAL CELLS/ML	23000		2500		1500		4200	
DIVERSITY: DIVISION	1.5		1.4		1.6		1.7	
.CLASS	1.5		1.4		1.6		1.7	
..ORDER	1.5		2.4		2.5		2.3	
...FAMILY	1.9		2.9		2.8		2.9	
....GENUS	2.8		3.0		3.1		3.2	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	150	11	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	650#	16
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	*	0
....MICRACTINIUM	--	-	--	-	--	-	81	2
...OOCYSTACEAE								
....ANKISTRODESMUS	990	4	55	2	--	-	40	1
....CHLORELLA	410	2	--	-	--	-	--	-
....CHODATELLA	--	-	27	1	--	-	--	-
....DICTYOSPHAERIUM	330	1	--	-	--	-	--	-
....KIRCHNERIELLA	1200	5	--	-	--	-	100	2
....OOCYSTIS	500	2	--	-	--	-	40	1
....POLYEDRIOPSIS	--	-	--	-	--	-	--	-
....TETRAEDRON	250	1	--	-	--	-	--	-
....TREUBARIA	*	0	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	5100#	22	360	14	77	5	400	10
....TETRASTRUM	1300	6	--	-	52	4	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	40	1
....CHLAMYDOMONAS	--	-	--	-	77	5	160	4
...VOLVOCACEAE								
....PANDORINA	--	-	220	9	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	3100	14	520#	21	230#	16	1200#	29
....MELOSIRA	170	1	55	2	100	7	180	4
....SKELETONEMA	*	0	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....COCCONEIS	--	-	27	1	--	-	--	-
...CYMBELLACEAE								
....AMPHORA	--	-	27	1	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	--	-	13	1	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	13	1	--	-
...NAVICULACEAE								
....NAVICULA	--	-	110	4	13	1	*	0
...NITZSCHIACEAE								
....NITZSCHIA	170	1	600#	24	140	10	160	4
...SURIRELLACEAE								
....SURIRELLA	--	-	27	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	660	3	--	-	--	-	650#	16
....ANACYSTIS	8400#	37	160	7	300#	20	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....LYNGBYA	--	-	270	11	--	-	--	-
....OSCILLATORIA	--	-	--	-	280#	19	360	9
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 15,79		MAR 12,80		MAY 13,80		JUN 11,80	
TIME	1130		1200		1130		1230	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....TRACHELOMONAS	--	-	--	-	--	-	*	0
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 8,80		AUG 12,80		SEP 9,80	
TIME	1100		1200		1100	
TOTAL CELLS/ML	71000		9300		14000	
DIVERSITY: DIVISION	0.3		1.6		1.5	
.CLASS	0.3		1.6		1.5	
..ORDER	0.4		2.1		2.2	
...FAMILY	0.5		2.9		2.7	
....GENUS	0.7		3.6		3.2	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHAPACIACEAE						
....SCHROEDERIA	*	0	--	-	--	-
...COELASTRACEAE						
....COELASTRUM	--	-	670	7	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	67	1	--	-
....MICRACTINIUM	--	-	540	6	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	510	1	--	-	*	0
....CHLORELLA	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	1800	3	600	6	1300	9
....KIRCHNERIELLA	--	-	270	3	410	3
....OOCYSTIS	--	-	710	8	210	1
....POLYEDRIOPSIS	--	-	*	0	--	-
....TETRAEDRON	--	-	--	-	--	-
....TREUBARIA	--	-	*	0	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	1000	1	1300	14	1500	11
....TETRASTRUM	--	-	--	-	410	3
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	*	0
...VOLVOCACEAE						
....PANDORINA	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	3300	5	1200	13	2400#	17
....MELOSIRA	63000#	89	570	6	260	2
....SKELETONEMA	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	--	-	*	0
...CYMBELLACEAE						
....AMPHORA	--	-	--	-	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	1000	1	640	7	930	7
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	*	0	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	540	6	410	3
....ANACYSTIS	--	-	810	9	3000#	21
..HORMOGONALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
....OSCILLATORIA	--	-	1200	13	2600#	18
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	570	4

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 8,80		AUG 12,80		SEP 9,80	
TIME	1100		1200		1100	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
+ - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

09521100 COLORADO RIVER BELOW YUMA MAIN CANAL WASTEWAY, AT YUMA, AZ

LOCATION.--Lat 32°43'54", long 114°37'55", in SW¼SW¼ sec.26, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, on right bank 1,000 ft (305 m) downstream from Yuma Main Canal wasteway, 0.6 mi (1.0 km) downstream from former gaging station on Colorado River at Yuma, 1.1 mi (1.8 km) northwest of downtown post office in Yuma, 5.2 mi (8.4 km) downstream from Gila River, and 6.4 mi (10.3 km) upstream from northerly international boundary.

DRAINAGE AREA.--246,500 mi^2 (638,400 km^2), approximately, including all closed basins entirely within the drainage boundary, also 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming.

PERIOD OF RECORD.--October 1963 to current year. If records for Yuma Main Canal wasteway at Yuma (sta 09525000) and Reservation Main Drain No. 4 (sta 09530000) are subtracted from records at this station, records equivalent to those published 1902-64 as "Colorado River at Yuma" (sta 09521000) can be obtained.

GAGE.--Water-stage recorder. Datum of gage is 101.99 ft (31.087 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas.

AVERAGE DISCHARGE.--17 years, 1,079 ft^3/s (30.56 m^3/s), 781,700 acre-ft/yr (964 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,620 ft^3/s (187 m^3/s) May 2, 1980, gage height, 18.48 ft (5.633 m); minimum daily, 260 ft^3/s (7.36 m^3/s) Jan. 17, 1970.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum gage height since at least 1878, 34.0 ft (10.4 m) Jan. 22, 1916, discharge, 250,000 ft^3/s (7,080 m^3/s), at former gaging station at Yuma.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,620 ft^3/s (187 m^3/s) May 2, gage height, 18.48 ft (5.633 m), minimum daily, 1,020 ft^3/s (28.9 m^3/s) Feb. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2680	2660	2560	2530	2440	2720	3600	6060	4830	3530	4700	5080
2	2620	2680	2550	2540	1880	2750	3520	6570	4770	3640	4750	5050
3	2610	2600	2580	2660	1590	2900	3780	5980	4710	3600	4730	5060
4	2700	2600	2590	2560	1730	2830	3930	5120	4770	3310	4750	5020
5	2710	2490	2690	2560	1750	2780	4230	4920	4820	3120	4710	5100
6	2640	2470	2740	2560	1660	2740	4320	4840	4790	3170	4790	5110
7	2560	2620	2710	2570	1800	2760	4500	4780	4740	3170	4800	5020
8	2550	2720	2640	2570	1680	2820	4170	4600	4720	3180	4920	5030
9	2620	2740	2610	2550	1130	2870	4160	4670	4670	3210	4980	5140
10	2660	2610	2610	2680	1020	2940	4270	4400	4990	3150	4870	5270
11	2660	2570	2680	2810	1020	3000	4380	3910	5550	3420	4800	5240
12	2660	2670	2710	2840	1080	3070	4560	4410	5420	4000	4870	5200
13	2580	2720	2700	2750	1190	3170	4460	4770	4910	4320	4970	5190
14	2520	2670	2720	2750	1260	3280	3830	4850	4710	4230	5010	5180
15	2580	2640	2640	2820	1370	3370	3620	4840	4690	3960	4980	4980
16	2640	2580	2580	2740	1490	3480	4280	4820	4700	3990	4950	5240
17	2670	2510	2570	2730	1580	3840	4900	4820	4700	4030	4920	5390
18	2640	2500	2670	2890	1580	4210	4970	4850	4710	4250	5000	5360
19	2520	2480	2550	2880	1620	4430	5240	4950	4740	4230	4950	5450
20	2510	2480	2530	2760	1660	4490	5940	4540	4750	4530	5000	5400
21	2490	2630	2560	2660	1730	4620	6170	4400	4750	5100	5030	5320
22	2520	2680	2540	2620	1960	4600	6360	4880	4720	4920	5050	5240
23	2550	2620	2510	2610	2120	4660	6380	4870	4680	5110	5100	5300
24	2570	2540	2510	2610	2290	4700	6230	4850	3970	5090	5230	5590
25	2570	2560	2510	2610	2430	4570	6020	4830	3150	5090	5870	5650
26	2530	2640	2540	2500	2550	4660	6060	4800	3190	5230	5860	5650
27	2450	2620	2720	2480	2630	4750	6210	4790	3360	5110	5840	5550
28	2450	2650	2740	2510	2640	4790	5840	4800	3500	4840	6100	5290
29	2530	2580	2620	2580	2710	4970	5560	4780	4140	4490	5670	5160
30	2620	2560	2580	2640	---	5100	5720	4760	4160	4620	5150	5390
31	2640	---	2530	2630	---	4380	---	4800	---	4640	5110	---
TOTAL	80250	78090	80990	82200	51590	116250	147210	151260	136310	128280	157460	157650
MEAN	2589	2603	2613	2652	1779	3750	4907	4879	4544	4138	5079	5255
MAX	2710	2740	2740	2890	2710	5100	6380	6570	5550	5230	6100	5650
MIN	2450	2470	2510	2480	1020	2720	3520	3910	3150	3120	4700	4980
AC-FT	159200	154900	160600	163000	102300	230600	292000	300000	270400	254400	312300	312700

CAL YR 1979 TOTAL 852379 MEAN 2335 MAX 3210 MIN 510 AC-FT 1691000
WTR YR 1980 TOTAL 1367540 MEAN 3736 MAX 6570 MIN 1020 AC-FT 2713000

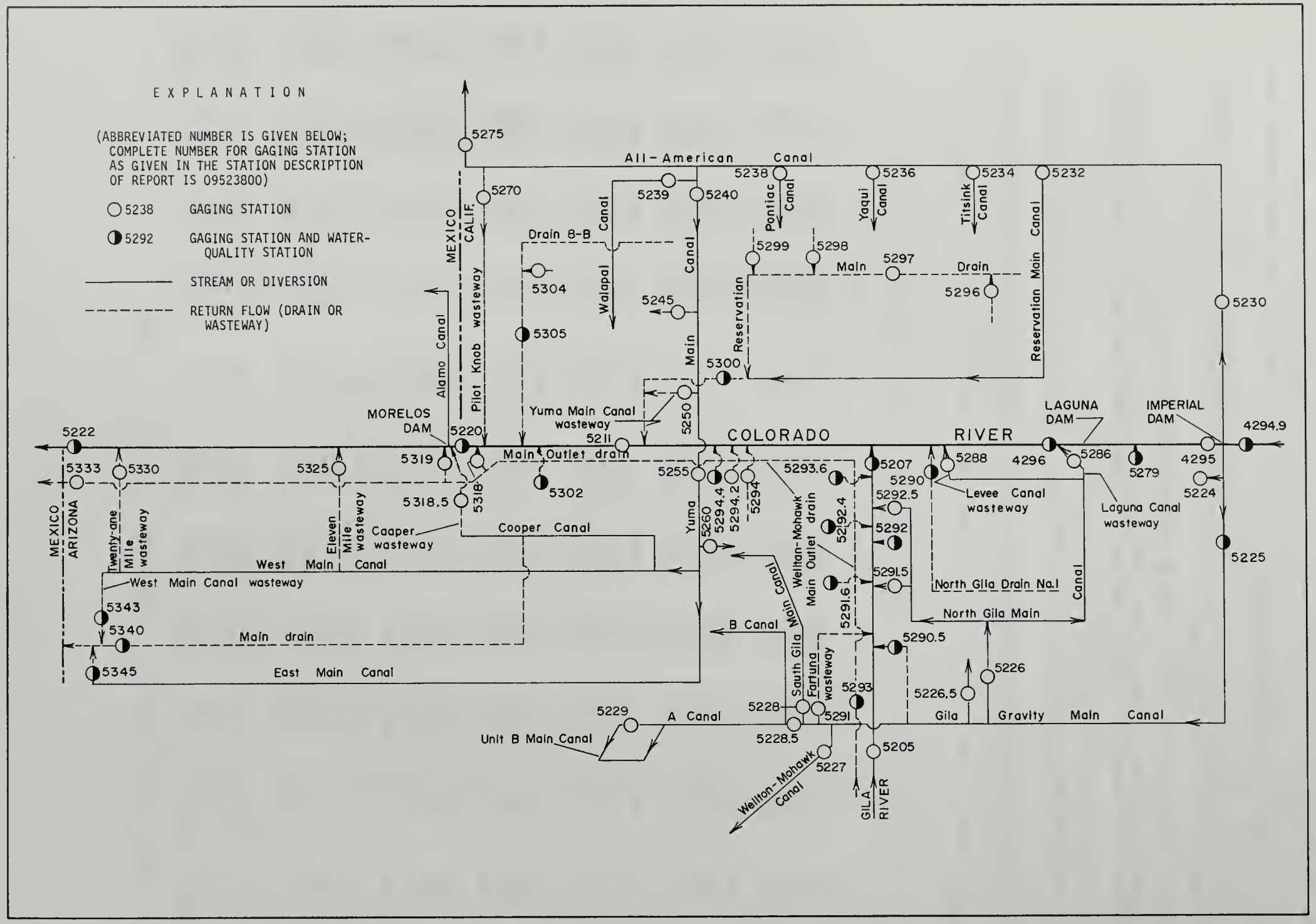


Figure 6.--Schematic diagram showing gaging stations and water-quality stations on streams, diversions, and return flows between Imperial Dam and the southerly international boundary.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY
ABOVE MORELOS DAM, NEAR ANDRADE, CA
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 32°43'07", long 114°43'05", in NE¼SE¼ sec.21, T.8 S., R.24 W., Gila and Salt River meridian, in Arizona, Yuma County, Hydrologic Unit 15030108, on left bank at northerly international boundary, 0.5 mi (0.8 km) east of Andrade, 1.1 mi (1.8 km) upstream from Morelos Dam, 1.1 mi (1.8 km) downstream from Rockwood Gate, and 6.4 mi (10.3 km) downstream from gaging station on Colorado River below Yuma Main Canal wasteway.

DRAINAGE AREA.--246,700 mi^2 (639,000 km^2), approximately, including all closed basins entirely within the drainage boundary, also 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1950 to current year. Prior to October 1958 published as "at international boundary."

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Supplementary water-stage recorder 1,680 ft (510 m) upstream at same datum.

REMARKS.--This record shows water passing northerly international boundary. Minor diversions to the United States below this station by pumping from ground water for irrigation in the floodway between river and Yuma levee.

COOPERATION.--Records furnished by International Boundary and Water Commission, U.S. Section (discharge figures rounded in accordance with Geological Survey standard practice).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,390 ft^3/s (719 m^3/s) Jan. 1, 1953; maximum elevation, 114.34 ft (34.851 m) Aug. 18, 1977; minimum discharge, 495 ft^3/s (14.0 m^3/s) Sept. 28, 1970; minimum elevation, 101.82 ft (31.035 m) Sept. 18, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,800 ft^3/s (391 m^3/s) May 2, elevation, 112.55 ft (34.305 m); minimum discharge, 2,060 ft^3/s (58.3 m^3/s) Feb. 10; minimum elevation, 104.11 ft (31.733 m) Feb. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4770	4390	4290	4310	5260	6600	10400	13500	10700	10500	9790	11400
2	4640	4230	4100	4550	4420	6980	10500	13600	10600	10400	9640	11300
3	4530	4100	4120	4260	4140	8170	10600	12400	10600	10200	10400	10600
4	4730	4150	4040	4100	3800	8170	10600	11600	10600	9810	9300	10700
5	4750	3840	3900	3610	3220	7270	10600	10800	10500	9000	8420	11400
6	4700	4020	3990	3590	3220	5850	10700	10400	10200	9350	8160	12200
7	4630	4200	3960	3580	3410	6630	10700	10300	10300	9180	8040	11900
8	4590	4570	3930	3540	3340	7810	10500	9620	10400	8970	8840	11100
9	4800	4390	3820	4100	2570	8610	10700	9380	10200	9360	9310	10300
10	4980	3960	4050	5100	2140	8430	10600	9590	10500	9160	9920	10200
11	4810	4310	4370	5640	2260	9030	10400	9370	11600	9820	9960	10500
12	4660	4170	4480	4510	2460	11000	10200	10100	11200	10600	9740	10700
13	4560	4050	3840	4010	2930	11600	10700	10500	10200	10600	9840	10800
14	4480	3980	4080	3970	4610	11500	9730	11100	10500	10400	9530	11300
15	5050	3990	3860	4070	5760	11500	9800	10900	11300	10400	9970	10500
16	6480	3970	3570	3990	4940	11700	10000	10800	11200	10500	10700	10300
17	5730	4010	4150	3920	3880	12200	10800	10800	11000	10400	11600	10300
18	4870	4160	4410	4130	3690	12400	11100	10600	11100	10800	11700	9770
19	4250	4170	4130	4160	4570	12300	11100	10400	10600	10700	11600	10700
20	3980	4550	4040	3980	4930	12100	11800	10100	11000	11000	10800	10600
21	4310	4720	4130	3690	5840	11900	11900	9900	11400	11900	10500	11200
22	4590	4870	4480	3560	6040	11600	12200	10400	11900	11700	10800	10500
23	4620	4500	3770	3560	6130	11300	12200	10500	11800	12000	11800	10200
24	4780	4720	3720	3580	6070	11000	12300	10500	10800	11900	12300	10400
25	4300	4720	3710	3640	5520	10700	12400	10500	9890	11800	12800	10600
26	4020	5030	5610	3520	5700	11500	12500	10400	9890	11600	12700	10900
27	3950	4720	5130	3490	5170	12500	13200	10400	10300	11600	12500	11400
28	3800	4750	4650	3730	5200	12400	12600	10600	10300	10900	13200	11600
29	4120	4660	4100	4060	6610	12900	12400	10600	11000	9990	12500	11200
30	4420	4630	3920	6800	---	13200	13000	10600	11200	9600	11100	10800
31	4510	---	4280	7190	---	11900	---	10600	---	9530	11900	---
TOTAL	143410	130530	128630	129940	127830	320750	336230	330860	322780	323670	329360	325370
MEAN	4626	4351	4149	4192	4408	10350	11210	10670	10760	10440	10620	10850
MAX	6480	5030	5610	7190	6610	13200	13200	13600	11900	12000	13200	12200
MIN	3800	3840	3570	3490	2140	5850	9730	9370	9890	8970	8040	9770
AC-FT	284500	258900	255100	257700	253600	636200	666900	656300	640200	642000	653300	645400

CAL YR 1979 TOTAL 1552140 MEAN 4252 MAX 9480 MIN 1120 AC-FT 3079000
WTR YR 1980 TOTAL 2949360 MEAN 8058 MAX 13600 MIN 2140 AC-FT 5850000

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1969 to current year.

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT											
01...	0830	4790	1200	8.1	--	3.0	--	--	--	--	300
09...	0830	4680	1220	8.0	--	18	--	--	--	--	330
15...	0830	4700	1230	8.1	--	35	--	--	--	--	320
16...	0900	6840	1300	8.0	22.0	--	6.7	29	120	100	--
22...	0830	4530	1210	8.1	--	24	--	--	--	--	300
29...	0830	3880	1200	8.2	--	18	--	--	--	--	310
30...	0830	4510	--	--	--	--	--	25	--	--	--
NOV											
05...	0830	3810	1240	7.9	--	--	--	--	--	--	299
13...	0830	4050	1220	7.7	--	--	--	--	--	--	306
14...	0900	4000	1290	7.8	15.0	17	8.9	27	--	--	280
19...	0830	4190	1240	8.0	--	--	--	--	--	--	310
24...	0830	5280	--	--	--	--	--	--	--	--	--
26...	0915	5110	1270	7.9	12.0	--	--	30	--	--	323
DEC											
03...	0830	4030	1230	7.7	--	--	--	--	--	--	315
10...	0830	4010	1270	7.8	--	--	--	--	--	--	319
11...	0830	4320	1290	7.2	12.5	15	9.6	33	100	36	280
17...	0830	3970	1280	7.8	--	--	--	--	--	--	295
26...	0830	5200	1380	7.8	--	--	--	--	--	--	351
31...	0830	4210	1310	8.0	--	--	--	--	--	--	262
JAN											
07...	0830	3590	1310	7.9	--	--	--	--	--	--	273
08...	0830	3580	1400	8.1	11.0	17	10.1	22	36	54	300
14...	0830	3950	1410	7.9	--	--	--	--	--	--	373
21...	0830	3780	1440	7.7	--	--	--	--	--	--	319
22...	0930	3620	1550	8.2	12.0	--	8.8	23	--	--	--
28...	0830	3780	1480	7.8	--	--	--	--	--	--	323
FEB											
12...	0930	2200	1700	8.1	14.0	16	8.8	39	26	33	410
26...	0830	5600	1210	7.9	16.5	--	--	170	--	--	--
MAR											
03...	0830	8290	1040	7.9	--	--	--	--	--	--	269
10...	0830	8380	1040	7.9	--	--	--	--	--	--	278
11...	0840	8900	1080	7.7	16.0	84	--	19	136	480	260
17...	0830	1210	1050	7.9	--	--	--	--	--	--	278
24...	0830	11000	1020	8.0	--	--	--	--	--	--	286
25...	0830	11000	1030	7.9	16.0	--	7.4	15	--	--	--
31...	0830	12100	1030	7.9	--	--	--	--	--	--	265
APR											
07...	0830	10800	1080	8.0	19.0	44	7.1	--	78	560	282

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

COOPERATION.--Quarterly pesticide analysis performed by Environmental Protection Agency. Water samples collected by International Boundary and Water Commission (U. S. section).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 2,230 micromhos Dec. 9, 1969; minimum observed, 1,010 micromhos Mar. 6, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 1,740 micromhos Feb. 10; minimum observed, 1,010 micromhos Mar. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT											
01...	150	78	25	140	3.5	4.0	0	230	160	.5	10
09...	180	90	25	130	3.1	4.0	0	240	160	.5	11
15...	160	86	25	140	3.4	4.0	0	240	150	.4	10
16...	--	--	--	--	--	--	--	--	--	--	--
22...	150	78	25	140	3.5	4.0	0	240	160	.5	10
29...	160	79	27	140	3.5	4.0	0	230	160	.3	12
30...	--	--	--	--	--	--	--	--	--	--	--
NOV											
05...	158	87	20	144	3.6	5.2	0	225	168	.6	12
13...	165	78	27	141	3.5	5.5	0	235	165	.7	10
14...	140	71	26	150	3.9	5.6	--	240	160	.6	9.6
19...	166	78	28	148	3.7	5.5	0	240	168	1.4	8.0
24...	--	--	--	--	--	--	--	--	--	--	--
26...	177	60	30	148	3.6	5.5	0	255	160	1.1	10
DEC											
03...	173	85	25	140	3.4	3.8	0	225	178	.6	8.0
10...	178	75	32	140	3.4	5.5	0	220	182	.4	9.0
11...	140	71	26	150	3.9	5.7	--	240	170	.5	8.9
17...	146	72	28	152	3.9	5.2	0	245	160	.5	10
26...	194	88	32	160	3.7	5.8	0	265	190	.5	10
31...	113	72	20	152	4.1	5.7	0	230	150	.6	10
JAN											
07...	122	78	19	158	4.2	5.8	0	215	175	.4	10
06...	150	74	28	170	4.3	6.2	--	210	200	.6	8.1
14...	214	72	47	150	3.4	6.5	0	290	180	.6	9.0
21...	165	75	32	182	4.4	6.0	0	248	215	.5	8.0
22...	--	--	--	--	--	--	--	--	--	--	--
28...	170	80	30	180	4.4	6.0	0	250	220	.7	9.0
FEB											
12...	240	100	40	190	4.1	6.0	--	340	230	.5	11
26...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	136	70	23	117	3.1	3.8	0	195	125	.4	13
10...	140	70	25	115	3.0	4.5	0	215	115	.6	12
11...	130	67	23	110	3.0	4.9	--	230	110	.5	11
17...	142	70	25	108	2.8	4.7	0	225	105	.6	13
24...	155	75	24	110	2.8	4.0	0	228	108	.4	12
25...	--	--	--	--	--	--	--	--	--	--	--
31...	121	65	25	100	2.7	4.5	0	200	100	.5	14
APR											
07...	144	70	26	118	3.1	5.5	0	228	115	.6	12

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
01...	764	725	1.04	--	--	.14	.60	--	--	--	--
09...	792	747	1.08	--	--	.11	.50	--	--	--	--
15...	790	741	1.07	--	--	.20	.90	--	--	--	--
16...	--	--	--	18	.14	.19	.84	.02	.00	.20	.11
22...	780	744	1.06	--	--	.18	.80	--	--	--	--
29...	720	733	.98	--	--	.14	.60	--	--	--	--
30...	--	--	--	31	.31	.15	.66	.02	.01	.16	.06
NOV											
05...	754	748	1.03	--	--	.18	.80	--	--	--	--
13...	760	748	1.03	--	--	.29	1.3	--	--	--	--
14...	741	748	1.01	--	--	--	--	--	--	.17	.09
19...	734	765	1.00	--	--	.18	.80	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
26...	800	778	1.09	23	.11	.16	.70	.04	.01	.17	.05
DEC											
03...	772	752	1.05	--	--	.18	.80	--	--	--	--
10...	762	750	1.04	--	--	.23	1.0	--	--	--	--
11...	799	757	1.09	--	--	--	--	--	--	.14	.02
17...	774	762	1.05	--	--	.16	.70	--	--	--	--
26...	858	847	1.17	--	--	.14	.60	--	--	--	--
31...	756	832	1.03	--	--	.29	1.3	--	--	--	--
JAN											
07...	786	753	1.07	--	--	.18	.80	--	--	--	--
08...	834	788	1.13	--	--	--	--	--	--	.13	.08
14...	858	850	1.17	--	--	.34	1.5	--	--	--	--
21...	882	861	1.20	--	--	.27	1.2	--	--	--	--
22...	--	--	--	31	.13	.17	.75	.02	.00	.17	.05
28...	888	869	1.21	--	--	.32	1.4	--	--	--	--
FEB											
12...	1050	1020	1.43	--	--	--	--	--	--	.18	.08
26...	--	--	--	536	.64	.61	2.7	.01	.01	.62	.08
MAR											
03...	638	629	.87	--	--	.34	1.5	--	--	--	--
10...	660	642	.90	--	--	.32	1.4	--	--	--	--
11...	649	636	.88	--	--	--	--	--	--	.30	.15
17...	634	634	.86	--	--	.14	.60	--	--	--	--
24...	648	640	.88	--	--	.09	.40	--	--	--	--
25...	--	--	--	79	.10	.13	.58	.01	.01	.14	.04
31...	626	597	.85	--	--	.16	.70	--	--	--	--
APR											
07...	672	658	.91	--	--	.02	.10	--	--	.12	.15

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DIS-SOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	--	.13	.47	--	.58	--	--	.74	--	3.3	.060
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
30...	--	.07	.63	--	.69	--	--	1.0	--	4.5	.110
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
14...	.04	.11	.88	1.3	.97	.00	1.3	1.2	1.5	5.2	.110
19...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
26...	--	.06	.64	--	.69	--	--	.84	--	3.7	.060
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	.07	.02	.94	.79	.96	.10	.86	1.1	1.0	4.8	.090
17...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
08...	.00	.10	.74	.66	.82	.16	.66	.96	.79	4.3	.070
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	.06	.95	--	1.0	--	--	1.2	--	5.1	.110
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	.06	.10	.83	.44	.91	.39	.52	1.1	.70	4.7	.080
26...	--	.10	1.2	--	1.3	--	--	2.0	--	8.6	.730
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	.04	.18	1.3	.52	1.4	.64	.56	1.7	.86	7.5	.220
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	--	.05	1.1	--	1.1	--	--	1.2	--	5.4	.150
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	.04	.18	.49	.31	.64	.29	.35	.76	.47	3.4	.160

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	.18	--	.03	.09	--	--	--	--	220	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
30...	.34	--	.04	.12	--	--	--	--	250	--	--
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
14...	.34	.000	--	--	5	4	300	90	--	0	<1
19...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
26...	.18	--	.01	.03	--	--	--	--	230	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	.28	.110	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
08...	.21	.010	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	.34	--	.11	.34	--	--	--	--	250	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	.25	.000	--	--	3	3	100	100	--	0	<1
26...	2.2	--	.08	.25	--	--	--	--	210	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	.67	.040	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	.46	--	.00	.00	--	--	--	--	140	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	.49	.020	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	470	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	920	--	--	--	--
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
14...	4	0	0	<3	2	0	1200	<10	5	0	100
19...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	730	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	600	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	10	0	0	<3	3	0	690	<10	0	0	100
26...	--	--	--	--	--	--	13000	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	1700	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	--	--	--	--	--	--	--	--	--	--	--

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09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
14...	6	.0	.0	5	0	1	1	0	0	0	4
19...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	0	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	20	.0	.0	4	2	2	2	0	0	20	<3
26...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	0	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	--	--	--	--	--	--	--	--	--	--	--

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09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUORUM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	4.6	--	--	--	--	--	--	--	--	.000	.000
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
30...	11	--	--	--	--	--	--	--	--	--	--
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
14...	--	8.0	.4	43000	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
26...	16	--	--	--	--	--	--	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	9.5	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
08...	5.3	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	--	7.8	.4	--	11.8	10.8	508	1.97	.020	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	37000	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
25...	8.0	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	7.4	--	--	--	--	--	--	--	--	--	--

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
APR											
14...	0830	9730	1090	7.9	--	--	--	--	--	--	287
21...	0830	12800	1140	8.0	--	--	--	--	--	--	310
22...	0850	1230	1130	7.9	20.5	--	--	11	--	--	--
28...	0830	12900	1130	8.1	--	--	--	--	--	--	310
MAY											
05...	0830	10800	1110	8.0	--	25	--	--	--	--	302
12...	0830	9930	1110	7.8	--	23	--	--	--	--	294
13...	0845	10500	1160	7.7	21.0	33	7.5	17	50	160	290
19...	0830	10300	1090	8.0	--	18	--	--	--	--	298
27...	0830	10400	1150	8.0	21.0	22	--	11	--	--	302
JUN											
02...	0830	10500	1110	8.0	--	23	--	--	--	--	290
09...	0830	10500	1120	8.0	--	29	--	--	--	--	310
10...	0830	10100	1290	8.1	25.0	17	6.0	24	56	50	310
16...	0830	11200	1150	7.9	--	28	--	--	--	--	277
23...	0830	12100	1140	8.1	--	24	--	--	--	--	328
24...	0850	11100	1200	7.9	23.5	--	--	15	--	--	--
30...	0830	11200	1290	7.8	--	20	--	--	--	--	336
JUL											
07...	0830	9300	1320	7.8	--	--	--	--	--	--	375
09...	0945	9100	1190	8.0	27.0	10	6.3	18	60	31	350
14...	0830	10300	1190	7.8	--	--	--	--	--	--	331
21...	0830	11800	1180	7.9	--	13	--	--	--	--	340
22...	0900	11600	1160	7.8	29.0	--	--	10	--	--	--
28...	0830	11200	1140	7.9	--	30	--	--	--	--	294
AUG											
04...	0830	9200	1130	7.9	--	26	--	--	--	--	288
11...	0830	9980	1150	7.9	--	21	--	--	--	--	286
13...	0910	9900	1130	7.5	31.0	24	5.6	--	57	59	290
18...	0830	11800	1150	7.9	--	16	--	--	--	--	302
25...	0830	12500	1150	8.0	--	18	--	--	--	--	305
27...	0930	12500	1160	8.1	28.0	--	--	5	--	--	--
SEP											
02...	0830	11300	1160	7.9	--	25	--	--	--	--	315
08...	0830	11200	1160	7.9	--	29	--	--	--	--	302
10...	1000	10200	1230	7.5	25.5	18	6.5	15	133	55	300
15...	0830	10800	1250	8.0	--	--	--	--	--	--	310
22...	0830	10400	1210	7.8	--	16	--	--	--	--	311
24...	0930	10400	1400	7.9	24.0	--	7.2	1	--	--	--
29...	0830	11000	1230	7.8	--	21	--	--	--	--	307

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
APR											
14...	146	72	26	116	3.0	5.2	0	225	115	.8	13
21...	166	78	28	128	3.2	4.6	0	260	120	.5	11
22...	--	--	--	--	--	--	--	--	--	--	--
28...	166	78	28	124	3.1	4.3	0	258	120	.5	9.8
MAY											
05...	154	78	26	110	2.8	5.2	0	234	110	.6	12
12...	152	75	26	118	3.0	4.9	0	234	120	.4	11
13...	150	75	26	120	3.0	4.9	--	240	120	.4	12
19...	154	78	25	112	2.8	5.1	0	228	110	.5	11
27...	161	78	26	120	3.0	4.6	0	252	120	.5	11
JUN											
02...	148	75	25	122	3.1	4.9	0	246	110	.3	10
09...	172	78	28	108	2.7	5.2	0	250	115	.5	11
10...	170	81	27	120	3.0	5.3	--	260	120	.4	11
16...	137	68	26	128	3.3	5.2	0	253	105	.6	10
23...	187	82	30	115	2.8	5.6	0	258	120	.5	11
24...	--	--	--	--	--	--	--	--	--	--	--
30...	193	85	30	140	3.3	5.2	0	297	135	.7	11
JUL											
07...	227	94	34	143	3.2	5.0	0	334	130	.5	11
09...	210	89	32	140	3.2	6.6	--	310	140	.4	11
14...	190	80	32	130	3.1	5.0	0	294	120	.5	12
21...	170	65	31	128	3.0	5.2	0	270	115	.5	11
22...	--	--	--	--	--	--	--	--	--	--	--
28...	150	75	26	127	3.2	5.6	0	261	118	.5	12
AUG											
04...	144	74	25	130	3.3	5.2	0	258	120	.6	12
11...	145	75	24	130	3.3	4.9	0	253	120	.4	13
13...	150	75	26	120	3.0	5.4	--	230	130	.5	12
18...	161	78	26	128	3.2	5.3	0	252	125	.6	11
25...	164	76	28	124	3.1	5.2	0	250	120	.5	11
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
02...	177	80	28	124	3.0	4.8	0	250	120	.4	12
08...	161	75	28	128	3.2	5.6	0	255	125	.6	12
10...	160	74	28	140	3.5	6.3	--	270	160	.6	11
15...	169	78	28	146	3.6	5.2	0	242	165	.6	11
22...	170	80	27	136	3.4	5.8	0	238	155	.6	11
24...	--	--	--	--	--	--	--	--	--	--	--
29...	171	77	28	134	3.3	5.2	0	246	145	.5	11

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
APR											
14...	670	658	.91	--	--	.09	.40	--	--	--	--
21...	740	718	1.01	--	--	.09	.40	--	--	--	--
22...	--	--	--	50	.14	.09	.40	.02	.01	.10	.06
28...	722	710	.98	--	--	.18	.80	--	--	--	--
MAY											
05...	672	666	.91	--	--	.27	1.2	--	--	--	--
12...	678	676	.92	--	--	.23	1.0	--	--	--	--
13...	722	684	.98	--	--	--	--	--	--	.15	.07
19...	660	657	.90	--	--	.18	.80	--	--	--	--
27...	712	698	.97	39	.15	.14	.60	.00	.00	.15	.07
JUN											
02...	718	680	.98	--	--	.18	.80	--	--	--	--
09...	728	679	.99	--	--	.16	.70	--	--	--	--
10...	719	710	.98	--	--	--	--	--	--	.15	.03
16...	742	680	1.01	--	--	.02	.10	--	--	--	--
23...	740	708	1.01	--	--	.11	.50	--	--	--	--
24...	--	--	--	54	.14	.14	.62	.01	.01	.15	.04
30...	810	790	1.10	--	--	.14	.60	--	--	--	--
JUL											
07...	848	841	1.15	--	--	.14	.60	--	--	--	--
09...	861	814	1.17	--	--	--	--	--	--	.09	.04
14...	762	759	1.04	--	--	.07	.30	--	--	--	--
21...	766	748	1.04	--	--	.09	.40	--	--	--	--
22...	--	--	--	133	.08	.05	.22	.00	.02	.07	.00
28...	728	712	.99	--	--	.09	.40	--	--	--	--
AUG											
04...	720	712	.98	--	--	--	--	--	--	--	--
11...	732	705	1.00	--	--	--	--	--	--	--	--
13...	724	683	.98	--	--	--	--	--	--	.05	.01
18...	746	711	1.01	--	--	.09	.40	--	--	--	--
25...	746	700	1.01	--	--	--	--	--	--	--	--
27...	--	--	--	96	.06	.05	.22	.00	.01	.06	.00
SEP											
02...	720	702	.98	--	--	--	--	--	--	--	--
08...	764	714	1.04	--	--	--	--	--	--	--	--
10...	866	775	1.18	--	--	--	--	--	--	.16	.00
15...	752	761	1.02	--	--	--	--	--	--	--	--
22...	754	738	1.03	--	--	--	--	--	--	--	--
24...	--	--	--	19	.07	.09	.40	.01	.00	.09	.02
29...	790	729	1.07	--	--	--	--	--	--	--	--

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR											
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	.07	.41	--	.47	--	--	.63	--	2.8	.590
28...	--	--	--	--	--	--	--	--	--	--	--
MAY											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
13...	.03	.08	.50	.46	.57	.08	.49	.75	.64	3.3	.110
19...	--	--	--	--	--	--	--	--	--	--	--
27...	--	.08	.53	--	.60	--	--	.75	--	3.3	.100
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	.07	.04	.70	.58	.73	.08	.65	.88	.80	3.9	.120
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	.05	.74	--	.78	--	--	.93	--	4.1	.100
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	.04	.05	.61	.56	.65	.05	.60	.73	.69	3.2	.020
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	.00	1.2	--	1.2	--	--	1.3	--	5.7	.090
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	.00	.01	.61	.47	.62	.15	.47	.69	.52	3.1	.110
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	.00	.58	--	.58	--	--	.64	--	2.8	.050
SEP											
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
10...	.00	.00	.62	.53	.62	.09	.53	.75	.69	3.3	.090
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	--	.02	.31	--	.33	--	--	.41	--	1.8	.060
29...	--	--	--	--	--	--	--	--	--	--	--

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)
APR											
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	1.8	--	.06	.18	--	--	--	--	180	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
MAY											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
13...	.34	.040	--	--	6	5	100	100	--	0	<1
19...	--	--	--	--	--	--	--	--	--	--	--
27...	.31	--	.06	.18	--	--	--	--	200	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	.37	.070	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	.31	--	.03	.09	--	--	--	--	210	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	.06	.040	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	.28	--	.00	.00	--	--	--	--	170	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	.34	.050	--	--	7	6	100	100	--	1	<1
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	.15	--	.00	.00	--	--	--	--	180	--	--
SEP											
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
10...	.28	.020	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	.18	--	.00	.00	--	--	--	--	200	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
APR											
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	1400	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
MAY											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
13...	0	0	0	<3	8	4	1600	360	5	0	90
19...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	1200	--	--	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	1100	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	1100	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	20	0	0	<3	13	1	1100	<10	50	3	90
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	460	--	--	--	--
SEP											
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	400	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
APR											
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
MAY											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
13...	30	.0	.0	6	3	2	2	0	0	20	<3
19...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	0	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	2	.0	.0	5	2	2	2	0	0	50	<3
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	0	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than value shown.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)
APR											
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	6.0	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
MAY											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
13...	--	9.9	.6	550	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
27...	5.2	--	--	--	--	--	--	--	--	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	7.0	--	--	3700	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	36	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	6.8	--	--	5700	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
22...	5.7	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	--	6.4	.5	2300	.315	.315	--	.070	.000	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	11	--	--	--	--	--	--	--	--	--	--
SEP											
02...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
10...	17	--	--	6000	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
24...	12	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)
NOV 14...	0900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 08...	0830	.00	--	.0	--	.00	--	.00	--	.00	--	.00
MAR 11...	0840	.00	--	.0	--	.00	--	.00	--	.00	--	.00
APR 07...	0830	.00	--	--	--	--	--	.00	--	--	--	.00
MAY 13...	0845	.00	--	.0	--	.00	--	.00	--	.00	--	.00
JUN 10...	0830	.00	--	.0	--	<.01	--	.00	--	<.02	--	.00
JUL 09...	0945	.00	--	.0	--	.00	--	.00	--	.00	--	.00
SEP 10...	1000	.00	--	.0	--	.00	--	.00	--	.00	--	.00

DATE	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
NOV 14...	ND	ND	ND	.00	ND	ND	ND	ND	ND	ND	ND	ND
JAN 08...	--	.00	--	.00	.00	--	.00	--	.00	--	.00	--
MAR 11...	--	.00	--	.00	.00	--	.00	--	.00	--	.00	--
APR 07...	--	--	--	--	--	--	.00	--	.00	--	--	--
MAY 13...	--	.00	--	.00	.00	--	.00	--	.00	--	.00	--
JUN 10...	--	.00	--	.00	.00	--	.00	--	.00	--	.00	--
JUL 09...	--	.00	--	.00	.00	--	.00	--	.00	--	.00	--
SEP 10...	--	.00	--	.00	.00	--	.00	--	.00	--	.00	--

DATE	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.00	--
JAN 08...	.00	--	.00	--	.00	--	.00	--	.00	--	.00	.00
MAR 11...	.00	--	.00	--	.00	--	.00	--	.00	--	.00	.00
APR 07...	--	--	.00	--	--	--	.00	--	.00	--	.00	--
MAY 13...	.00	--	.00	--	.00	--	.00	--	.00	--	.00	.00
JUN 10...	.00	--	.00	--	.00	--	.00	--	.00	--	.00	.00
JUL 09...	.00	--	.00	--	.00	--	.00	--	.00	--	.00	.00
SEP 10...	.00	--	.00	--	.00	--	.00	--	.00	--	.00	.00

ND Material specifically analyzed for but not detected.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE TOTAL (UG/L)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV												
14...	ND	ND	.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN												
08...	.00	--	.00	.0	--	0	--	.00	--	.00	.00	.00
MAR												
11...	.00	--	.00	.0	--	0	--	.00	--	.01	.00	.00
APR												
07...	.00	--	--	--	--	--	--	.00	--	.00	.00	.00
MAY												
13...	.00	--	.00	.0	--	0	--	.00	--	.00	.00	.00
JUN												
10...	.00	--	.00	.0	--	0	--	.00	--	.00	.00	.00
JUL												
09...	.00	--	.00	.0	--	0	--	.00	--	.04	.00	.00
SEP												
10...	.00	--	.00	.0	--	0	--	.00	--	.00	.00	.00

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	1300	---	---	1570	1140	1030	1120	1130	1310	1150	1150
2	1240	1310	1240	1290	1580	1100	1040	1140	1110	1300	1150	1160
3	1210	1310	1230	1300	1570	1040	1040	1140	1130	1270	1150	1160
4	1200	1320	1250	1250	1570	1040	1040	1150	1120	1330	1130	1150
5	1210	1300	1260	1290	1590	1050	1040	1110	1130	1330	1130	1160
6	1220	1290	1280	1280	1570	1010	1030	1090	1130	1320	1130	1140
7	1230	1260	1220	1310	1540	1040	1080	1090	1140	1320	1120	1150
8	1220	1280	1210	1310	1540	1050	1070	1100	1140	1320	1130	1160
9	1220	1280	1270	1340	1600	1040	1090	1120	1120	1300	1140	1240
10	1220	1330	1270	1340	1740	1040	1100	1100	1120	1250	1160	1260
11	1210	1290	1220	1280	1670	1050	1110	1090	1140	1210	1150	1240
12	1210	1310	1230	1380	1610	1040	1110	1110	1160	1200	1150	1210
13	1200	1300	1240	1400	1580	1070	1130	1120	1130	1210	1140	1240
14	1200	1300	1240	1410	1460	1050	1090	1130	1150	1190	1130	1250
15	1230	1320	1220	1440	1360	1070	1100	1120	1170	1180	1130	1250
16	1230	1340	1200	1470	1370	1040	1100	1100	1150	1170	1130	1260
17	1210	1340	1280	1470	1580	1050	1120	1110	1150	1180	1140	1220
18	1210	1330	1270	1470	1580	1050	1110	1110	1150	1170	1150	1220
19	1230	1300	1260	1450	1410	1020	1120	1090	1140	1160	1150	1220
20	1240	1270	---	1440	1420	1020	1130	1100	1150	1160	1130	1220
21	1240	1270	1270	1440	1370	1040	1140	1080	1140	1180	1140	1210
22	1210	1280	1290	1460	1350	1050	1130	1120	1140	1160	1150	1210
23	1230	1300	1290	1410	1230	1040	1120	1090	1140	1170	1140	1210
24	1220	1310	1320	1450	1270	1020	1110	1130	1200	1150	1150	1240
25	1210	1330	1330	1450	1220	1030	1130	1130	1270	1140	1150	1250
26	1210	1330	1380	---	1210	1030	1130	1120	1280	1140	1140	1270
27	1220	1320	1310	---	1160	1020	1130	1120	1290	1150	1140	1220
28	1200	1310	1250	1480	1140	1030	1130	1100	1290	1140	1140	1220
29	1200	1310	1270	1490	1160	1060	1130	1110	1280	1130	1140	1230
30	1220	1330	1270	1400	---	1060	1130	1120	1290	1140	1150	1210
31	1210	---	1310	1460	---	1030	---	1130	---	1130	1160	---
MEAN	1220	1310	1260	1390	1440	1050	1100	1110	1170	1210	1140	1210
MAX	1240	1340	1380	1490	1740	1140	1140	1150	1290	1330	1160	1270
MIN	1200	1260	1200	1250	1140	1010	1030	1080	1110	1130	1120	1140

WTR YR 1980 MEAN 1210 MAX 1740 MIN 1010

ND Material specifically analyzed for but not detected.

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 14,79		MAR 11,80		MAY 13,80		JUL 10,80	
TIME	0900		0900		0845		0830	
TOTAL CELLS/ML	43000		57000		550		3700	
DIVERSITY: DIVISION	1.3		0.3		1.3		1.4	
.CLASS	1.3		0.3		1.3		1.4	
..ORDER	1.4		0.4		2.3		1.8	
...FAMILY	1.6		0.4		2.7		2.5	
....GENUS	2.4		0.4		2.7		2.5	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	250	7
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	*	0	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	52	9	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	1400	3	*	0	--	-	74	2
....CHLORELLA	550	1	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	1300	3	*	0	--	-	150	4
....OOCYSTIS	*	0	--	-	--	-	74	2
....TETRAEDRON	*	0	--	-	--	-	--	-
...SCENEDESMACEAE								
....CRUCIGENIA	--	-	--	-	--	-	--	-
....SCENEDESMUS	6800#	15	450	1	52	9	150	4
....TETRASTRUM	460	1	--	-	--	-	99	3
..TETRASPORALES								
...CYCLOMYXACEAE								
....ELAKATOTHRIX	--	-	190	1	--	-	--	-
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	--	-	100#	19	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	25	1
....CHLAMYDOMONAS	--	-	*	0	26	5	49	1
..ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIUM	550	1	*	0	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	4400	11	*	0	190#	35	1800#	48
....MELOSIRA	--	-	*	0	--	-	220	6
....SKELETONEMA	460	1	--	-	--	-	--	-
....STEPHANODISCUS	--	-	*	0	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	*	0	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	25	1
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	--	-	25	1
...FRAGILARIACEAE								
....FRAGILARIA	--	-	*	0	--	-	--	-
....SYNEDRA	*	0	--	-	--	-	--	-
...NAVICULACEAE								
....GYROSIGMA	--	-	--	-	--	-	49	1
....NAVICULA	--	-	*	0	26	5	49	1
...NITZSCHIACEAE								
....NITZSCHIA	230	1	*	0	65	12	120	3
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	*	0	--	-	25	1
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	NOV 14,79		MAR 11,80		MAY 13,80		JUN 10,80	
TIME	0900		0840		0845		0830	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	7400*	17	230	1	--	-	--	-
....ANACYSTIS	20000*	45	*	0	39	7	490	13
..HORMOGONALES								
...NOSTOCALEAE								
....ANABAENA	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	35000*	96	--	-	--	-
...RIVULARIACEAE								
....RHIZOSOLENIA	--	-	*	0	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....TRACHELOMONAS	--	-	--	-	--	-	25	1

NOTE: * - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 9,80	AUG 13,80	SEP 10,80
TIME	0945	0910	1000
TOTAL CELLS/ML	5700	2300	6000
DIVERSITY: DIVISION	1.2	0.9	1.6
.CLASS	1.2	0.9	1.6
..ORDER	1.7	1.1	2.3
...FAMILY	1.9	2.6	2.7
....GENUS	2.7	2.9	2.8

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	210	9	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	340	15	200	3
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
....MICRACTINIUM	--	-	340#	17	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	69	1	--	-	--	-
....CHLORELLA	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	*	0
....DICTYOSPHAERIUM	280	5	13	1	--	-
....KIRCHNERIELLA	--	-	13	1	350	5
....OOCYSTIS	--	-	13	1	--	-
....TETRAEDRON	--	-	13	1	50	1
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	52	2	--	-
....SCENEDESMUS	340	6	650#	29	400	7
....TETRASTRUM	--	-	--	-	100	2
..TETRASPORALES						
...COCCOMYXACEAE						
....ELAKATOTHRIX	--	-	--	-	--	-
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	69	1	26	1	180	3
..ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	1100#	19	390#	17	1300#	22
....MELOSIRA	2400#	42	65	3	--	-
....SKELETONEMA	--	-	--	-	--	-
....STEPHANODISCUS	170	3	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	34	1	--	-	--	-
....COCCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	50	1
....SYNEDRA	--	-	13	1	--	-
...NAVICULACEAE						
....GYROSIGMA	--	-	--	-	*	0
....NAVICULA	34	1	--	-	*	0
...NITZSCHIACEAE						
....NITZSCHIA	240	4	65	3	250	4
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	34	1	26	1	50	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE	JUL 9,80		AUG 13,80		SEP 10,80	
TIME	0945		0910		1000	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	550	10	--	-	--	-
....ANACYSTIS	--	-	--	-	9600#	16
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	410	7	--	-	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	2000#	34
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....TRACHELOMONAS	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

09522200 COLORADO RIVER AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, AZ

LOCATION.--Lat 32°29'48", long 114°48'48", in Mexico, on right bank about 1,000 ft (300 m) upstream from southerly international boundary, 2 mi (3 km) west of San Luis, Ariz., and 21.9 mi (35.2 km), downstream from Morelos Dam.

DRAINAGE AREA.--246,700 mi^2 (639,000 km^2), approximately, including all closed basins entirely within the drainage boundary, also 3,959 mi^2 (10,254 km^2) in Great Divide basin in southern Wyoming.

PERIOD OF RECORD.--January 1950 to current year. Prior to October 1960, monthly discharge only published in WSP 1733.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to June 24, 1954, at site 1,100 ft (340 m) downstream at same datum. August 1956 to September 1966, supplementary water-stage recorders at various sites within 6 mi (10 km) upstream used to compute discharge during periods of backwater from diversion dike downstream.

REMARKS.--This record shows water passing southerly international boundary. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for municipal use and irrigation, and return flow from irrigated areas.

COOPERATION.--Records furnished by International Boundary and Water Commission, U.S. Section (discharge figures rounded in accordance with Geological Survey standard practice).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,600 ft^3/s (810 m^3/s) Dec. 18, 1952; maximum elevation, 84.84 ft (25.859 m) Nov. 29, 1957; no flow at times 1956-58, 1964-69, 1971-72, 1975, 1977-79.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,630 ft^3/s (273 m^3/s) May 2; elevation, 84.33 ft (25.704 m); minimum, 72 ft^3/s (2.04 m^3/s) Feb. 13; elevation, 74.33 ft (22.656 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2740	2400	2170	1570	3850	2920	6450	9020	6980	6050	3760	6620
2	2450	2160	1830	1690	2320	2730	5600	9480	7000	5560	3780	6240
3	2390	2100	1850	1730	2180	3330	5660	9480	6860	5600	3890	6130
4	2360	2030	1810	1570	1820	3810	5730	8870	6860	5340	4220	5790
5	2470	1970	1640	1410	1560	3670	5660	8060	6890	4940	3180	6110
6	2390	1820	1640	1140	1130	2540	5730	7210	6720	4520	2750	6670
7	2320	1860	1670	1150	1140	1780	5880	7030	6550	4890	2610	7120
8	2250	2090	1610	1150	1140	2220	5720	6760	6590	4090	2880	6460
9	2370	2300	1530	1190	747	3100	5700	6190	6720	3960	3260	5660
10	2480	2100	1380	1820	198	3270	5730	6240	6490	3910	3700	5100
11	2460	1840	1670	2560	90	3270	5620	6100	7130	3780	4130	5220
12	2300	2050	1980	2750	76	4100	5380	6280	7630	4800	4090	5450
13	2310	1760	1890	2110	200	5780	5360	6950	6960	5350	4110	5700
14	2350	1750	1540	1820	812	6130	5590	7290	6530	5270	4120	5820
15	2350	1750	1720	1780	2400	6270	4730	7690	7020	4740	4100	6200
16	3410	1730	1430	1820	3010	6200	4930	7400	7920	4790	4890	5660
17	3920	1660	1370	1730	2130	6550	5260	7440	7740	4760	5620	5980
18	3440	1730	1870	1740	1770	6950	5710	7370	7400	4830	6270	5790
19	2570	1740	1760	1850	1880	7100	5950	7130	7410	4940	6120	5620
20	2210	1830	1460	1810	2750	7060	6070	6990	6860	4920	6000	6320
21	2060	2090	1400	1670	3280	6980	6660	6600	7250	5400	5380	6330
22	2480	2270	1520	1420	3930	6820	6940	6840	7340	5750	5290	6560
23	2670	2250	1580	1360	4120	6560	7480	7080	7610	5620	5730	5880
24	2860	2160	1090	1360	4210	6360	7760	7080	7370	5730	6640	5890
25	2850	2330	1080	1380	3410	5990	7960	7060	6360	5580	7020	6020
26	2220	2460	1320	1320	2850	5920	7980	7010	5940	5440	7270	6280
27	2100	2500	2720	1100	2800	7060	8420	6950	5970	5380	7000	6580
28	1930	2330	2140	1110	2330	7710	8980	6920	6060	5230	7040	6970
29	1900	2350	1690	1240	2450	7650	8180	6990	6060	4430	7500	6950
30	2230	2320	1380	1890	---	7930	8320	6980	6440	3970	6530	6610
31	2350	---	1310	3810	---	7700	---	6990	---	3740	6110	---
TOTAL	77190	61730	51050	52050	60583	165460	191140	225480	206660	153310	154990	183730
MEAN	2490	2058	1647	1679	2089	5337	6371	7274	6889	4945	5000	6124
MAX	3920	2500	2720	3810	4210	7930	8980	9480	7920	6050	7500	7120
MIN	1900	1660	1080	1100	76	1780	4730	6100	5940	3740	2610	5100
AC-FT	153100	122400	101300	103200	120200	328200	379100	447200	409900	304100	307400	364400

CAL YR 1979 TOTAL 462175.90 MEAN 1266 MAX 5420 MIN .00 AC-FT 916700
WTR YR 1980 TOTAL 1583373.00 MEAN 4326 MAX 9480 MIN 76 AC-FT 3141000

Diversions at and below Imperial Dam, AZ-CA

Diversions for irrigation in the Gila Project in Arizona are made at Imperial Dam by the Gila Gravity Main Canal. Diversions for irrigation in the Yuma Project in Arizona and California are made at Imperial Dam by the All-American Canal. Between Imperial Dam and the international boundary secondary diversions from these principal canals are made to divisions of the Gila and Yuma Projects.

Return surface flows from irrigated areas enter the Colorado and Gila Rivers through many drains and wasteways in Arizona and California, or are delivered across the international boundary into Mexico. See p. 463 for records of return surface flows below Imperial Dam.

See figure 6 on p. 426 for a schematic diagram showing location of diversions and return flows.

09522500. GILA GRAVITY MAIN CANAL AT IMPERIAL DAM.--See daily table elsewhere in this report.

09522600. NORTH GILA MAIN CANAL.
LOCATION.--Water-stage recorder and sharp-crested weir in SW¼SW¼ sec.23, T.7 S., R.22 W., Hydrologic Unit 15030107, about 700 ft (200 m) downstream from turnout from Gila Gravity Main Canal and 1.2 mi (1.9 km) south of Laguna Dam.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 5,963 acres (24.1 km^2) in 1979, in North Gila Valley.

09522650. NORTH GILA MAIN CANAL NO. 2.
LOCATION.--Water-stage recorder in SW¼NW¼ sec.11, T.8 S., R.22 W., Hydrologic Unit 15070201, at turnout from Gila Gravity Main Canal and 3.5 mi (5.6 km) downstream from turnout to North Gila Main Canal.

PERIOD OF RECORD.--Monthly discharge June 1969 to current year.

REMARKS.--Record shows water available for irrigation of land in North Gila Valley. Diversion began June 11, 1969.

09522700. WELLTON-MOHAWK CANAL.
LOCATION.--Two water-stage recorders to record forebay and tailrace elevations and gate openings since June 1, 1974, in NW¼NE¼ sec.17, T.8 S., R.21 W., Hydrologic Unit 15070201, at turnout from Gila Gravity Main Canal.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 57,806 acres (234 km^2) in 1979, in the Dome, Wellton, and Mohawk areas of the lower Gila Valley.

COOPERATION.--Supplementary record of gate openings furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

09522800. SOUTH GILA MAIN CANAL.
LOCATION.--Vane meter and water-stage recorder in SE¼SW¼ sec.36, T.8 S., R.22 W., Hydrologic Unit 15070201, 260 ft (79 m) downstream from turnout from Gila Gravity Main Canal. Also, Sparling flowmeter 150 ft (46 m) upstream.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of a portion of the 9,951 acres (40.3 km^2) in 1979, in South Gila Valley; additional diversions are made from Gila Gravity Main Canal to supply other portions of this same acreage.

COOPERATION.--Records furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation) prior to June 4, 1974.

09522850. GILA GRAVITY MAIN CANAL AT PUMPING PLANT.
LOCATION.--Intake consisting of 4 pumps in NE¼NW¼ sec.1, T.9 S., R.22 W., Hydrologic Unit 15070201, at end of Gila Gravity Main Canal and head of Yuma Mesa canals.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 21,344 acres (86.4 km^2) in 1979, of which 18,055 acres (73.1 km^2) is on Yuma Mesa and remainder in Yuma Auxiliary Division of Yuma Valley listed under sta 09522900 below. Flow measured by rated pumps.

COOPERATION.--Records furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation) and Yuma Mesa Irrigation and Drainage District.

09522900. UNIT B MAIN CANAL.
LOCATION.--Two Sparling flowmeters in NW¼SW¼ sec.28, T.9 S., R.23 W., Hydrologic Unit 15030108, 5 mi (8 km) northeast of Somerton.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 3,289 acres (13.3 km^2) in 1979, in Yuma Auxiliary Division of the Yuma Project. Sparling meters checked by occasional discharge measurements.

COOPERATION.--Records furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation) and Unit B Irrigation and Drainage District.

09523000. ALL-AMERICAN CANAL NEAR IMPERIAL DAM.--See daily table elsewhere in this report.

09523200. RESERVATION MAIN CANAL.
LOCATION.--Water-stage recorder and, since Sept. 5, 1975, gate-opening recorder, in NE¼NE¼ sec.35, T.15 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian, at turnout from All-American Canal and 5.8 mi (9.3 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge August 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record computed from rated gate on turnout from All-American Canal and shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

COOPERATION.--Record of gate openings furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation); these are used for comparison to recorder and for determining missing record on gate recorder.

09523400. TITSINK CANAL.
LOCATION.--Water-stage recorder and Parshall flume in NE¼SW¼ sec.27, T.15 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian, 0.6 mi (1.0 km) downstream from turnout from All-American Canal and 7.2 mi (11.6 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge August 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09523600. YAQUI CANAL.
LOCATION.--Water-stage recorder and Parshall flume in NW¼SE¼ sec.31, T.15 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian, 700 ft (200 m) downstream from turnout from All-American Canal and 11.1 mi (17.9 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge June 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09523800. PONTIAC CANAL.
LOCATION.--Water-stage recorder and Parshall flume in NW¼SW¼ sec.1, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 500 ft (150 m) downstream from turnout from All-American Canal and 13.1 mi (21.1 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge August 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09523900. WALAPAI CANAL.
LOCATION.--Water-stage recorder and sharp-crested weir in SE¼SE¼ sec.10, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 100 ft (30 m) downstream from siphon-drop powerplant forebay and 4.3 mi (6.9 km) north of Yuma.

PERIOD OF RECORD.--Monthly discharge October 1946 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 0924000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09524000. YUMA MAIN CANAL AT SIPHON-DROP POWERPLANT.--See daily table elsewhere in this report.

09524500. DIVERSIONS FROM YUMA MAIN CANAL BETWEEN SIPHON-DROP POWERPLANT AND YUMA MAIN CANAL WASTEWAY.
LOCATION.--Turnouts for several canals diverting from Yuma Main Canal between siphon-drop powerplant, 4 mi (6 km) north of Yuma, and Yuma Main Canal wasteway, 1,600 ft (500 m) upstream from Colorado River siphon.

PERIOD OF RECORD.--Monthly discharge October 1940 to current year. Prior to October 1947 published in WSP 1313. October 1947 to September 1965 published as supplemental table with records for Yuma Main Canal at siphon-drop powerplant.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California. Records estimated on basis of discharge measurements by Clausen-Pierce weir rule and occasional current-meter measurements.

COOPERATION.--Record furnished by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

09525500. YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON.--See daily table elsewhere in this report.

09526000. DIVERSION FROM YUMA MAIN CANAL FOR MUNICIPAL SUPPLY FOR YUMA.
LOCATION.--Sparling and Venturi flowmeters, in NW¼NE¼ sec.35, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, on two pipelines, respectively, about 1,000 ft (300 m) downstream from intake, which is at outlet of Colorado River siphon of Yuma Main Canal, on Arizona side of Colorado River at Yuma.

PERIOD OF RECORD.--Monthly discharge June 1945 to current year. Prior to October 1973 published as a supplemental table with records for Yuma Main Canal below Colorado River siphon.

REMARKS.--Record shows water for Yuma municipal supply; prior to 1962 was supplement only to total Yuma municipal supply. Figures shown in table herewith are also included in record for Yuma Main Canal below Colorado River siphon (sta 09525500). Capacity of pump used prior to August 1960 was about 12 ft^3/s (0.34 m^3/s); combined capacity of three pumps used August 1960 to January 1975 is about 25 ft^3/s (0.71 m^3/s); combined capacity of four pumps used since February 1975 is about 38 ft^3/s (1.10 m^3/s). Two emergency pumps with combined capacity of about 27 ft^3/s (0.76 m^3/s) can pump directly from the Colorado River. Emergency pumps last used Oct. 25, 1975. Relocated October 1977.

COOPERATION.--Records furnished by Yuma County Water Users' Association (prior to April 1955, by Arizona Public Service Co., and April 1955 to September 1965, by Arizona Water Co.).

09527500. ALL-AMERICAN CANAL BELOW PILOT KNOB WASTEWAY.--See daily table elsewhere in this report.

Diversions at and below Imperial Dam, A2-CA--Continued

MONTHLY DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	North Gila Main Canal 09522600	North Gila Main Canal No. 2 09522650	Wellton-Mohawk Canal 09522700	South Gila Main Canal 09522800	Gila Gravity Main Canal at pumping plant 09522850
October	3,520	407	19,520	2,780	18,730
November	2,650	541	14,270	2,200	14,670
December	2,580	384	13,230	1,680	10,700
CAL YR 1979	37,040	6,550	286,900	35,020	240,200
January	1,760	248	9,250	2,010	10,540
February	2,350	320	22,160	2,670	8,180
March	2,640	341	26,430	3,430	16,870
April	3,360	787	30,740	3,860	22,640
May	2,630	462	28,360	3,170	26,770
June	2,940	626	34,970	3,170	30,940
July	3,960	818	44,580	4,910	35,140
August	3,820	508	41,760	3,970	32,290
September	3,740	395	33,400	3,600	24,920
WTR YR 1980	35,950	5,840	318,700	37,450	252,400

Month	Unit B Main Canal 09522900	Reservation Main Canal 09523200	Titsink Canal 09523400	Yaqui Canal 09523600	Pontiac Canal 09523800
October	3,080	2,700	21	677	262
November	2,260	2,430	29	377	243
December	1,650	2,180	17	427	87
CAL YR 1979	33,740	51,410	351	9,410	7,170
January	1,470	1,420	0	263	348
February	1,040	3,360	32	464	86
March	2,290	5,390	19	955	1,300
April	3,010	4,620	64	885	589
May	3,220	5,180	46	699	696
June	3,840	6,830	46	1,300	1,210
July	4,490	8,240	60	1,270	1,360
August	4,200	6,640	22	1,100	1,090
September	3,450	4,770	44	685	649
WTR YR 1980	34,000	53,760	400	9,090	7,910

Month	Walapai Canal 09523900	Diversions from Yuma Main Canal 09524500	Diversions from Yuma Main Canal for Yuma supply 09526000
October	766	786	1,188
November	337	532	945
December	393	131	889
CAL YR 1979	11,350	8,010	13,634
January	358	241	769
February	1,130	526	725
March	1,360	545	917
April	1,370	710	1,129
May	759	494	1,266
June	1,510	1,360	1,373
July	1,660	1,420	1,603
August	1,350	1,230	1,640
September	832	613	1,399
WTR YR 1980	11,820	8,590	13,843

Note.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, AZ-CA

LOCATION.--Lat 32°52'34", long 114°27'18", in SE¼SW¼ sec.30, T.6 S., R.21 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030107, on right bank 3,200 ft (975 m) downstream from intake at east end of Imperial Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 160.00 ft (48.768 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those below 100 ft^3/s (2.8 m^3/s), which are fair. Gila Gravity Main Canal diverts water from Colorado River at left end of Imperial Dam for irrigation of lands in the Gila Project area in Arizona. Diversions to this canal began Aug. 17, 1943. Diversions to North Gila Valley from this canal began Dec. 16, 1954. During the 1979 calendar year, water was used for irrigation of 95,064 acres (385 km^2) divided as follows: North and South Gila Valleys, 15,914 acres (64.4 km^2); Mesa Unit, 18,055 acres (73.1 km^2); Wellton-Mohawk Division, 57,806 acres (234 km^2); Yuma Mesa Auxiliary Division, 3,289 acres (13.3 km^2).

AVERAGE DISCHARGE.--21 years (water years 1960-80), 1,181 ft^3/s (33.45 m^3/s), 855,600 acre-ft/yr (1,050 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,240 ft^3/s (63.4 m^3/s) May 25, 1965; no flow at canal intake at times in several years when intake gates were closed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	847	876	551	82	442	657	1000	1160	696	1750	1670	1130
2	1080	933	466	711	195	603	1140	962	1210	1690	1470	1360
3	910	780	629	850	200	1340	1180	647	1330	1810	1140	1470
4	1120	644	590	549	714	1420	729	704	1280	1550	1640	1570
5	1000	714	393	489	868	1400	269	1230	1360	1120	1850	1520
6	704	689	440	200	777	1270	246	1300	1230	1070	1850	1230
7	516	711	492	481	1000	1100	1180	1490	887	1780	1850	1160
8	911	710	574	489	894	541	1340	1380	602	1800	1790	1350
9	990	702	346	425	752	397	1640	1110	1170	1800	1530	1410
10	1000	517	714	209	650	1050	1470	690	1150	1850	1220	1320
11	1070	329	802	186	1160	1120	1350	499	1450	1770	1670	1530
12	1050	847	850	77	1160	1210	842	1130	1330	1320	1720	1280
13	553	917	809	69	1080	1130	576	1280	1480	1070	1700	1040
14	493	831	592	386	1050	593	1180	1370	1050	1500	1800	757
15	926	1080	326	276	569	455	1380	1190	608	1720	1660	1180
16	1050	845	188	463	327	245	1530	1120	1190	1840	1480	1180
17	1100	752	672	349	340	798	1510	654	1590	1860	1170	1310
18	1140	651	902	294	620	888	1300	578	1620	1800	1740	1260
19	733	1250	890	213	520	1060	1030	1120	1700	1720	1700	1140
20	455	1210	852	215	285	1010	708	1450	1660	1170	1830	1130
21	308	1370	702	685	288	865	1380	1480	1210	1570	1830	696
22	792	1090	183	790	296	593	1510	1270	886	1540	1770	1360
23	779	838	181	751	243	516	1620	1060	1520	1730	1280	1520
24	882	433	65	655	214	1050	1390	738	1670	1820	799	1370
25	793	23	16	548	712	1180	1160	538	1350	1540	1170	1250
26	801	10	460	164	815	1290	635	996	1630	1450	1340	860
27	584	8.2	570	198	1000	892	460	1270	1560	1000	1480	562
28	345	6.1	650	773	1090	650	1210	1340	1200	1680	1410	518
29	737	5.0	345	844	979	363	1150	1290	1080	1660	1560	922
30	836	29	158	617	---	323	1410	1160	1770	1870	1220	1280
31	824	---	188	574	---	1090	---	898	---	1770	737	---
TOTAL	25329	19800.3	15596	13612	19240	27099	33525	32704	38469	49620	47076	35665
MEAN	817	660	503	439	663	874	1118	1055	1282	1601	1519	1189
MAX	1140	1370	902	850	1160	1420	1640	1490	1770	1870	1850	1570
MIN	308	5.0	16	69	195	245	246	304	602	1000	737	518
AC-FT	50240	39270	30930	27000	38160	53750	66500	64870	76300	98420	93380	70740

CAL YR 1979 TOTAL 338499.0 MEAN 927 MAX 1970 MIN 5.0 AC-FT 671400
WTR YR 1980 TOTAL 357735.3 MEAN 977 MAX 1870 MIN 5.0 AC-FT 709600

09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, AZ-CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1956 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: January 1956 to current year

INSTRUMENTATION.--Water temperature recorder January 1956 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1965-67 available from district office in Tucson, Ariz.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 33.0°C Aug. 29-31, 1970; minimum, 7.0°C Jan. 13-17, 1964, Jan. 4-7, 1971, Jan. 3-8, 1979.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 30.5°C July 25-31; minimum, 10.5°C Dec. 3-5, 14-20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUL												
23...	1345	1720	1200	7.8	29.5	340	210	85	31	120	2.8	5.3
AUG												
06...	1330	1790	1200	8.0	28.5	330	190	83	30	120	2.9	6.3
27...	1100	1510	1150	7.5	27.0	340	210	85	31	120	2.8	5.6

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUL											
23...	130	300	110	.5	10	779	741	1.06	.11	200	<10
AUG											
06...	140	310	120	.5	9.8	796	764	1.08	.05	180	<10
27...	130	330	110	.4	9.5	781	770	1.06	.05	200	<10

09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, AZ-CA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	25.0	24.5	15.5	15.5	11.5	11.5	11.5	11.5	14.5	14.0	17.0	17.0
2	24.5	24.5	15.5	15.5	11.5	11.5	11.5	11.0	14.5	14.5	16.5	16.0
3	24.5	24.5	15.5	15.5	10.5	10.5	11.0	11.0	14.5	14.5	16.5	16.0
4	24.5	24.0	---	---	10.5	10.5	11.0	11.0	14.5	14.5	16.0	16.0
5	24.5	24.0	---	---	11.0	10.5	11.0	11.0	14.5	14.5	16.0	15.5
6	24.5	24.0	---	---	11.5	11.0	11.0	11.0	14.5	14.5	16.0	16.0
7	24.0	24.0	---	---	12.0	11.5	11.0	11.0	14.5	14.5	16.0	15.5
8	24.0	23.5	---	---	12.0	12.0	11.0	11.0	14.5	14.5	16.0	16.0
9	23.5	23.0	---	---	12.0	12.0	11.5	11.5	14.5	14.5	16.0	16.0
10	23.5	23.0	---	---	12.0	12.0	11.5	11.5	14.5	14.5	16.0	16.0
11	23.0	23.0	---	---	12.0	12.0	12.0	11.5	14.5	14.5	16.0	16.0
12	23.0	21.5	---	---	12.0	11.5	14.0	13.0	14.0	14.0	16.0	16.0
13	22.0	21.5	---	---	11.5	11.0	15.0	14.0	14.0	14.0	16.0	16.0
14	22.0	21.5	---	---	11.0	10.5	15.0	14.5	14.0	14.0	16.5	16.5
15	22.0	21.5	---	---	10.5	10.5	15.0	15.0	14.0	14.0	16.5	16.5
16	21.5	21.5	---	---	10.5	10.5	15.0	15.0	15.0	15.0	16.5	16.5
17	21.5	21.5	---	---	10.5	10.5	15.0	15.0	15.5	15.0	16.5	16.0
18	22.0	21.5	---	---	10.5	10.5	15.0	15.0	16.5	15.5	16.0	16.0
19	22.0	22.0	---	---	10.5	10.5	14.5	14.5	17.0	16.5	16.0	16.0
20	22.0	21.5	---	---	11.0	10.5	14.5	13.5	17.0	17.0	16.0	16.0
21	21.5	20.0	---	---	11.5	11.0	13.5	13.0	17.0	17.0	16.0	16.0
22	20.0	20.0	---	---	11.5	11.5	13.0	12.0	17.0	16.0	16.5	16.0
23	20.0	19.5	---	---	11.5	11.5	12.0	12.0	16.0	16.0	16.0	16.0
24	19.5	19.0	---	---	---	---	12.0	12.0	16.5	16.0	16.0	16.0
25	19.5	19.0	---	---	---	---	12.0	11.5	16.5	16.5	16.5	16.0
26	19.5	19.5	---	---	12.0	12.0	11.5	11.5	16.5	16.5	16.5	16.5
27	20.0	19.5	---	---	12.0	12.0	12.0	11.5	17.0	16.5	16.0	15.5
28	20.0	19.5	---	---	12.0	12.0	13.0	13.0	17.0	17.0	16.5	16.0
29	20.0	19.0	---	---	12.0	12.0	13.0	13.0	17.0	17.0	16.0	16.0
30	19.0	17.0	---	---	12.0	11.5	13.5	13.0	---	---	16.0	16.0
31	17.0	16.0	---	---	11.5	11.5	14.0	13.5	---	---	16.5	16.0
MONTH	25.0	16.0	15.5	15.5	12.0	10.5	15.0	11.0	17.0	14.0	17.0	15.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.0	16.0	20.0	20.0	20.5	20.0	28.0	27.0	30.0	29.5	26.0	26.0
2	16.0	16.0	20.5	20.0	22.0	21.5	28.0	27.0	29.5	29.0	26.0	26.0
3	16.0	16.0	21.5	20.5	23.0	22.0	28.0	27.0	29.5	29.5	26.5	26.0
4	16.5	16.0	23.0	21.5	23.0	23.0	28.0	27.0	29.5	29.0	26.5	26.0
5	17.0	16.5	23.0	22.0	23.5	23.0	28.5	27.0	29.0	28.5	26.5	26.0
6	17.0	16.5	23.5	23.0	23.5	23.5	28.5	28.5	28.5	28.5	27.0	26.0
7	18.0	17.0	23.5	23.0	24.0	23.5	28.5	27.0	29.0	28.5	27.0	27.0
8	18.0	18.0	23.0	22.0	24.0	23.5	28.5	28.0	29.0	29.0	27.0	26.0
9	18.0	18.0	23.0	22.0	24.0	24.0	28.5	28.0	29.5	29.0	26.5	26.0
10	18.5	18.5	22.0	21.0	25.0	24.0	29.0	28.5	30.0	29.5	26.0	26.0
11	18.5	18.5	21.0	20.5	25.0	24.5	29.0	28.5	30.0	29.5	26.0	26.0
12	18.5	17.0	20.5	19.5	26.0	25.0	28.5	28.0	29.5	29.5	26.0	26.0
13	17.0	17.0	20.5	20.0	26.0	25.0	29.0	28.5	29.5	29.5	26.0	26.0
14	18.0	17.0	21.5	20.5	25.0	24.5	29.0	28.5	29.5	29.5	26.0	26.0
15	19.0	18.5	21.5	21.0	25.0	24.5	29.0	28.5	29.5	28.5	26.0	25.5
16	19.0	18.5	23.0	21.5	25.0	25.0	29.0	28.5	28.5	27.0	26.0	25.5
17	19.5	19.0	23.0	22.0	26.0	25.5	29.0	28.5	28.0	27.0	26.0	24.0
18	20.5	19.5	24.0	23.0	26.5	26.0	29.0	29.0	27.0	27.0	26.0	26.0
19	21.0	20.0	24.5	24.0	26.5	26.0	29.0	29.0	27.0	26.5	26.5	26.0
20	21.0	20.5	24.5	24.0	27.0	26.0	29.0	29.0	26.5	26.0	26.5	26.0
21	20.5	20.0	24.5	24.0	27.0	26.5	29.0	29.0	27.0	26.0	26.0	25.5
22	20.0	19.0	24.5	23.5	26.5	26.0	30.0	29.0	27.0	27.0	25.5	25.5
23	18.5	18.0	23.5	23.5	26.5	26.0	30.0	29.5	28.0	27.0	25.5	25.5
24	18.0	16.5	23.5	21.5	26.5	26.0	30.0	30.0	28.0	27.0	---	---
25	19.0	18.5	21.5	21.0	26.5	26.0	30.5	30.0	28.0	27.0	---	---
26	19.5	19.0	21.0	21.0	26.5	26.0	30.5	30.0	28.0	27.0	---	---
27	20.0	19.5	20.5	20.5	28.0	26.5	30.5	30.0	26.0	27.0	---	---
28	20.5	20.5	21.0	20.5	28.5	27.0	30.5	30.0	28.0	27.0	---	---
29	20.5	20.5	21.5	21.0	28.5	28.0	30.5	30.0	28.0	27.0	---	---
30	20.5	20.0	21.5	20.0	28.5	28.0	30.0	30.0	27.0	26.5	---	---
31	---	---	21.5	21.0	---	---	30.5	30.0	26.5	26.0	---	---
MONTH	21.0	16.0	24.5	19.5	28.5	20.0	30.5	27.0	30.0	26.0	27.0	25.5
YEAR	30.5	10.5										

09523000 ALL-AMERICAN CANAL NEAR IMPERIAL DAM, AZ-CA

LOCATION.--Lat 32°52'17", long 114°28'47", in SE¼NW¼ sec.17, T.15 S., R.24 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, on left bank 6,000 ft (1,829 m) downstream from intake at west end of Imperial Dam and 13.7 mi (22.0 km) upstream from turnout to Yuma Main Canal.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1939 monthly discharge only, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 150.00 ft (45.720 m) National Geodetic Vertical Datum of 1929 (subject to undetermined changes caused by earthquake of May 18, 1940). Since Aug. 21, 1952, auxiliary water-stage recorder 18.5 mi (29.8 km) downstream from base gage.

REMARKS.--Records excellent. All-American Canal diverts water from Colorado River at Imperial Dam. Water is used for power development and for irrigation in Yuma, Coachella, and Imperial Valleys. Water can be released back to the river through Pilot Knob powerplant and wasteway for power, regulatory purposes, or for downstream use in Mexico. First diversion to All-American Canal began October 1938, but prior to October 1940 was used only for priming canal.

COOPERATION.--Daily discharge figures furnished by Imperial Irrigation District (discharge figures reviewed in accordance with Geological Survey standard practice).

AVERAGE DISCHARGE.--39 years (water years 1942-80), 6,965 ft^3/s (197.2 m^3/s), 5,046,000 acre-ft/yr (6,220 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 14,400 ft^3/s (408 m^3/s), Apr. 17, July 15, 16, 1980; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7980	5940	5040	4270	4310	7980	13800	12200	10500	14100	13000	12900
2	7990	5770	4560	5050	4470	8230	14100	11200	10700	13800	12300	12900
3	8070	5570	4540	4820	4240	8990	14100	11200	11100	13200	12300	12800
4	7960	5300	4620	4800	4330	9710	14000	10900	11700	12700	11500	12800
5	7990	5260	4890	4660	4030	9580	13400	10200	12200	12300	11200	13100
6	7730	5370	5160	4200	4290	9490	11700	11000	11700	12600	11400	13600
7	7520	5390	5000	4190	4560	9970	12600	11700	11500	12600	11800	13000
8	7400	5530	4700	4340	4830	11400	13400	11700	11000	12700	12500	12000
9	7260	5040	4700	4060	4560	12100	13600	11500	11100	13100	12800	11400
10	7280	4930	5370	3890	4510	11800	13500	12300	11800	13500	13100	11500
11	7020	5060	5480	3840	5360	11400	14100	12600	12500	13900	13200	11400
12	6850	4860	5420	2820	6110	11500	14000	11800	12500	14200	12900	11600
13	7000	4910	4890	2700	6510	11700	13700	11600	11400	14000	13200	11600
14	6980	4980	4980	2770	5560	12400	13300	12000	12100	13800	13200	11900
15	6640	4750	4480	3040	6260	12400	14300	11800	12200	14400	13000	11600
16	5920	4410	4180	3260	4710	12400	14300	11500	12400	14400	13300	11500
17	5900	4340	4900	3340	3750	12500	14400	11600	12100	14300	13600	11500
18	5810	4530	5000	3520	3080	13200	14300	11100	12800	14100	13500	11400
19	6880	4880	5160	3660	3950	13400	14100	11400	13000	13900	13700	11700
20	7180	5280	5230	3240	4360	14200	13800	12300	13200	13800	13400	11600
21	7110	5390	5020	3810	5070	14200	13600	12500	13800	14100	13500	12400
22	6830	4950	4860	4420	4990	13900	13800	12500	14000	14100	13200	11500
23	7280	4900	3570	4800	5170	13700	13400	12500	13800	14100	13600	11400
24	7430	5100	2940	5120	5080	13500	13700	11800	13900	14100	13400	11600
25	6010	5140	2690	5120	4360	13600	13500	10900	14100	14000	13400	11700
26	5970	5650	5380	5150	4550	13200	12900	11100	14100	13800	13700	11700
27	5950	5600	4970	5440	4960	13300	12700	11100	14100	13600	13700	11800
28	5780	5770	4760	5890	6060	13600	13400	11400	14000	13400	14000	11700
29	6080	5650	4430	5970	7550	13400	13600	11500	13500	13400	13600	11300
30	6190	5450	4020	6210	---	13300	12900	11500	14100	13000	13000	11100
31	6130	---	4150	5890	---	13400	---	11000	---	12900	13500	---
TOTAL	214120	155700	145090	134290	141570	373450	408000	359400	376900	421900	403500	358000
MEAN	6907	5190	4680	4332	4882	12050	13600	11590	12560	13610	13020	11930
MAX	8070	5940	5480	6210	7550	14200	14400	12600	14100	14400	14000	13600
MIN	5780	4340	2690	2700	3080	7980	11700	10200	10500	12300	11200	11100
AC-FT	424700	308800	287800	266400	280800	740700	809300	712900	747600	836800	800300	710100

CAL YR 1979 TOTAL 2614370 MEAN 7163 MAX 11300 MIN 1020 AC-FT 5186000
WTR YR 1980 TOTAL 3491920 MEAN 9541 MAX 14400 MIN 2690 AC-FT 6926000

09524000 YUMA MAIN CANAL AT SIPHON-DROP POWERPLANT, NEAR YUMA, AZ

LOCATION.--Lat 32°46'30", long 114°38'05", in SE¼SE¼ sec.10, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, on right bank at downstream end of powerplant, 500 ft (150 m) from turnout from All-American Canal to Yuma Main Canal, 4.0 mi (6.4 km) north of Yuma, and 14.9 mi (24.0 km) downstream from intake of All-American Canal at Imperial Dam.

PERIOD OF RECORD.--July 1926 to current year. Prior to October 1938, monthly discharge only published in WSP 1313. Diversions from All-American Canal and Yuma Main Canal previously published with this record are listed separately in this report.

GAGE.--Water-stage recorder on forebay to determine head on rated bypass gates since Sept. 15, 1952. Recorders on gates to record gate opening since Nov. 8, 1973. Normal operating level of forebay of powerplant is 150.5 ft or 45.87 m (corrected) National Geodetic Vertical datum of 1929, or 150.3 ft (45.81 m) Yuma Project datum. Prior to Oct. 30, 1938, floating nonrecording gages on forebay and tailrace. Oct. 30, 1938, to Mar. 1, 1945, floating nonrecording gage on forebay and water-stage recorder on tailrace. Mar. 2, 1945, to Jan. 11, 1951, water-stage recorders on forebay and tailrace. Jan. 12, 1951, to Dec. 7, 1972, differential recorder to record head between forebay and tailrace prior to discontinuing powerplant operation.

REMARKS.--Records good except those between 100 and 300 ft^3/s (2.8 and 8.5 m^3/s), which are fair, and those below 100 ft^3/s (2.8 m^3/s), which are poor. Discharge through bypass gates determined from relationship of forebay elevation and gate openings. Flow to Yuma Main Canal regulated by opening and closing bypass gates. Gates on All-American Canal open and close automatically to maintain a constant forebay elevation. Records of daily discharge show quantity of water diverted from All-American Canal to Yuma Main Canal, except that diverted from forebay of powerplant to Walapai Canal. (See sta 09523900.) Flow through turbines of powerplant was discontinued Dec. 8, 1972.

COOPERATION.--Supplementary record of gate openings furnished by Yuma County Water Users' Association.

EXTREMES.--1930 to current year: Maximum daily discharge, 2,040 ft^3/s (57.8 m^3/s) Nov. 11, 1943; no flow for several days in 1937-39, 1945.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	429	509	239	29	215	647	552	457	186	649	821	460
2	370	466	128	153	215	298	633	358	183	612	720	537
3	422	291	155	293	106	210	626	188	273	699	656	655
4	520	25	178	359	152	298	664	154	384	767	671	692
5	571	29	243	319	170	410	442	191	709	685	746	558
6	472	32	448	237	229	717	78	398	745	484	757	404
7	406	32	364	292	500	658	203	551	664	486	790	310
8	465	32	264	344	479	457	293	604	508	751	861	345
9	468	192	187	304	344	324	367	468	591	871	826	492
10	438	591	292	154	293	314	686	402	684	875	363	512
11	399	462	346	31	488	425	753	307	671	737	323	474
12	342	422	352	58	658	488	710	383	725	601	397	479
13	348	422	354	140	700	571	532	489	751	465	440	424
14	255	352	374	242	549	624	543	481	603	525	769	316
15	258	273	271	318	397	592	702	483	296	663	817	428
16	388	167	121	339	270	294	800	425	430	829	755	565
17	386	163	95	327	137	280	827	351	531	912	593	614
18	352	117	156	365	136	317	808	247	579	834	666	610
19	351	221	235	334	153	415	812	352	840	696	755	558
20	299	320	345	277	151	698	560	588	913	523	827	489
21	229	337	373	339	184	773	423	581	875	651	814	419
22	301	224	234	466	163	623	439	550	688	823	682	455
23	428	182	109	523	134	439	500	513	665	897	430	430
24	384	190	62	527	179	405	773	500	760	850	207	461
25	356	211	25	498	254	518	758	412	795	746	234	451
26	402	283	212	450	368	572	639	552	819	671	350	405
27	394	362	315	348	531	457	516	752	787	551	421	338
28	315	328	275	397	686	368	439	749	748	638	655	275
29	348	346	275	444	696	313	520	674	685	802	701	366
30	418	310	189	302	---	283	560	604	698	880	650	442
31	491	---	73	236	---	397	---	457	---	857	525	---
TOTAL	12005	7891	7289	9445	9537	14185	17158	14221	18786	22030	19222	13964
MEAN	387	263	235	305	329	458	572	459	626	711	620	465
MAX	571	591	448	527	700	773	827	752	913	912	861	692
MIN	229	25	25	29	106	210	78	154	183	465	207	275
AC-FT	23810	15650	14460	18730	18920	28140	34030	28210	37260	43700	38130	27700

CAL YR 1979 TOTAL 172072 MEAN 471 MAX 1510 MIN 25 AC-FT 341300
WTR YR 1980 TOTAL 165733 MEAN 453 MAX 913 MIN 25 AC-FT 328700

09525000 YUMA MAIN CANAL WASTEWAY AT YUMA, AZ

LOCATION.--Lat 32°44'00", long 114°37'20", in SW¼SE¼ sec.26, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, 45 ft (14 m) downstream from wasteway gates from Yuma Main Canal which are 1,645 ft (501 m) upstream from intake of Colorado River siphon on Yuma Main Canal, 0.5 mi (0.8 km) north of Yuma, and 3.2 mi (5.1 km) downstream from siphon-drop powerplant on Yuma Main Canal.

PERIOD OF RECORD.--April 1913 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder for low flows only, with supplementary recorder on wasteway gate. Datum of gage is 122.51 ft (37.341 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 1, 1968, gate-opening record used for low flows only.

REMARKS.--Records good except those below 150 ft^3/s (4.2 m^3/s), which are fair. The wasteway discharges into Colorado River in SW¼ sec.26, T.16 S., R.22 E., 1,000 ft (300 m) upstream from station on Colorado River below Yuma Main Canal wasteway at Yuma. Discharges above 100 ft^3/s (2.8 m^3/s) are generally computed as difference between discharge of Yuma Main Canal at siphon-drop powerplant and Yuma Main Canal below Colorado River siphon, with deductions for small irrigation diversions from canal between these stations. Discharges below 100 ft^3/s (2.8 m^3/s) are generally computed from stage-discharge relation. Records do not include flow of Reservation Main Drain No. 4.

EXTREMES.--1930 to current year: Maximum daily discharge, 2,020 ft^3/s (57.2 m^3/s) Dec. 24, 25, 1948; no flow for several days in 1937-39, 1945, 1950, 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	7.5	10	17	20	20	21	19	21	20	17
2	16	19	7.7	11	17	20	19	23	19	20	21	17
3	17	18	9.0	11	17	19	18	19	19	20	21	17
4	17	107	9.0	11	17	19	18	19	19	20	20	17
5	17	5.2	9.6	12	24	19	18	20	19	21	21	20
6	18	5.8	9.7	11	20	19	18	17	18	24	22	19
7	16	15	9.9	12	20	17	18	16	18	21	22	18
8	16	2.8	9.7	12	20	17	18	17	18	20	29	18
9	17	4.1	11	11	20	17	18	17	19	21	20	21
10	17	11	9.7	12	19	17	18	17	19	21	20	14
11	16	17	10	12	19	17	17	22	19	20	20	10
12	16	9.7	9.7	11	20	18	16	20	20	20	19	9.1
13	16	9.8	9.8	24	20	18	18	20	20	21	19	8.6
14	17	9.7	9.7	26	20	17	19	20	20	20	19	8.5
15	16	9.5	10	17	20	18	17	20	20	20	19	8.7
16	18	14	9.9	17	20	19	16	20	22	20	19	8.8
17	17	15	10	18	20	19	17	19	21	20	18	14
18	17	15	9.8	18	19	20	17	25	21	20	19	9.0
19	17	12	10	17	20	19	16	22	21	20	19	9.0
20	18	11	10	17	20	20	16	22	21	19	18	8.5
21	31	11	10	17	20	20	17	20	21	20	18	8.7
22	17	10	10	17	20	20	17	20	21	20	18	9.1
23	17	13	10	18	19	19	17	20	21	22	18	9.8
24	17	10	10	16	19	19	17	20	21	21	16	10
25	17	10	10	16	20	19	16	20	21	21	17	11
26	17	10	10	16	20	19	16	20	21	19	17	11
27	16	9.5	10	16	20	19	17	22	21	22	17	12
28	16	8.0	10	16	20	20	19	20	20	21	17	9.3
29	17	7.5	10	16	20	19	19	19	21	21	17	9.1
30	17	7.3	10	19	---	19	19	20	21	21	18	8.9
31	17	---	10	17	---	20	---	19	---	21	17	---
TOTAL	534	423.9	301.7	474	567	582	526	616	601	638	595	371.1
MEAN	17.2	14.1	9.73	15.3	19.6	18.8	17.5	19.9	20.0	20.6	19.2	12.4
MAX	31	107	11	26	24	20	20	25	22	24	29	21
MIN	16	2.8	7.5	10	17	17	16	16	18	19	16	8.5
AC-FT	1060	841	598	940	1120	1150	1040	1220	1190	1270	1180	736

CAL YR 1979 TOTAL 20675.6 MEAN 56.6 MAX 923 MIN 2.8 AC-FT 41010
WTR YR 1980 TOTAL 6229.7 MEAN 17.0 MAX 107 MIN 2.8 AC-FT 12360

09525500 YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, AZ

LOCATION.--Two gages, one at each end of canal siphon passing under Colorado River. At intake, lat 32°43'49", long 114°37'09", in NE¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, on left bank 1,645 ft (501 m) downstream from center of Yuma Main Canal wasteway gates and 3.5 mi (5.6 km) downstream from siphon-drop powerplant. At outlet, in NW¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, in Arizona, Yuma County, on right bank. Siphon crossing is 1,500 ft (457 m) downstream from upper highway bridge over Colorado River at Yuma.

PERIOD OF RECORD.--January 1924 to current year. Prior to October 1938, monthly discharge only published in WSP 1313. Diversion from Yuma Main Canal for municipal supply for Yuma (sta 09526000), published with this record prior to October 1973, is listed separately in this report.

REVISED RECORDS.--WSP 1713: 1958, 1959 (Yuma municipal supply).

GAGE.--Water-stage recorder at each end of siphon. Datum of each gage is 100.62 ft (30.669 m) National Geodetic Vertical Datum of 1929, or 100.08 ft (30.504 m) Yuma Project datum. Prior to Oct. 1, 1963, at datum 0.05 ft (0.015 m) lower. Elevation of sill of inlet is 125.5 ft (38.25 m) NGVD. Prior to Oct. 29, 1938, nonrecording gages at approximately same sites, read simultaneously.

REMARKS.--Records excellent except those between 100 and 300 ft^3/s (2.8 and 8.5 m^3/s), which are good, and those below 100 ft^3/s (2.8 m^3/s), which are poor. Daily discharge computed from relation between discharge and head on siphon, which is the difference between intake and outlet gages. Records show quantity of water delivered through Colorado River siphon for irrigation of 44,030 acres (178 km^2) in 1979, in the Valley Division of the Yuma Project and for supplementary municipal supply for city of Yuma (see sta 09526000).

AVERAGE DISCHARGE.--56 years, 463 ft^3/s (13.11 m^3/s), 335,400 acre-ft/yr (414 hm^3/yr).

EXTREMES.--1930 to current year: Maximum daily discharge, 948 ft^3/s (26.8 m^3/s) Aug. 16, 1962; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	385	491	222	28	212	625	543	424	156	575	762	420
2	341	443	101	131	206	263	614	330	129	551	671	513
3	395	310	140	279	95	200	612	169	208	632	599	614
4	495	42	164	348	118	295	634	126	337	703	618	625
5	539	24	236	302	148	396	419	169	676	632	683	503
6	451	26	431	223	201	670	89	368	716	456	707	373
7	383	17	348	280	467	614	195	526	637	474	734	289
8	435	29	239	340	451	437	262	585	480	732	794	303
9	441	41	171	301	332	288	336	456	544	821	762	425
10	426	564	282	159	286	272	641	388	647	810	350	455
11	380	439	330	59	429	385	705	293	644	671	292	450
12	326	404	332	80	634	448	662	347	701	571	338	460
13	327	404	330	118	666	526	483	450	711	428	375	408
14	232	338	343	238	530	582	501	470	553	486	720	311
15	253	254	247	301	375	554	641	465	269	597	778	408
16	378	137	101	323	244	273	755	399	399	751	706	527
17	367	132	73	320	104	244	772	308	475	849	556	587
18	339	88	136	338	100	308	748	191	514	777	605	586
19	343	193	217	310	116	395	733	317	779	649	687	514
20	270	293	338	254	116	686	501	533	863	483	784	453
21	198	308	362	310	145	751	374	539	829	588	780	382
22	287	193	214	445	126	604	389	518	633	754	649	441
23	413	156	86	508	90	431	452	484	605	839	416	419
24	364	170	63	513	135	400	743	465	708	790	187	441
25	340	194	19	476	229	482	716	376	753	675	203	406
26	374	261	202	429	336	541	584	518	750	606	307	375
27	371	347	294	328	494	450	472	720	733	494	380	313
28	285	313	256	390	651	370	407	706	681	577	583	258
29	316	325	237	432	685	313	489	652	606	718	610	336
30	398	295	159	284	---	269	516	584	625	801	549	408
31	477	---	33	223	---	388	---	446	---	804	453	---
TOTAL	11329	7231	6708	9070	8721	13460	15988	13322	17361	20294	17638	13003
MEAN	365	241	216	293	301	434	533	430	579	655	569	433
MAX	539	564	431	513	685	751	772	720	863	849	794	625
MIN	198	17	19	28	90	200	89	126	129	428	187	258
AC-FT	22470	14340	13310	17990	17300	26700	31710	26420	34440	40250	34980	25790

CAL YR 1979 TOTAL 147429 MEAN 404 MAX 905 MIN 17 AC-FT 292400
WTR YR 1980 TOTAL 154125 MEAN 421 MAX 863 MIN 17 AC-FT 305700

09527000 PILOT KNOB POWERPLANT AND WASTEWAY NEAR PILOT KNOB, CA

LOCATION.--Lat 32°44'15", long 114°42'56", in NW¼SW¼ sec.25, T.16 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 2 mi (3 km) east of summit of Pilot Knob, 6 mi (10 km) west of Yuma, Ariz., and 20.8 mi (33.5 km) downstream from intake of All-American Canal at Imperial Dam.

PERIOD OF RECORD.--February 1939 to current year. Prior to October 1943 monthly discharge only, published in WSP 1313. Prior to October 1956, published as Pilot Knob wasteway near Pilot Knob.

GAGE.--Totalizing flowmeter on each turbine. In addition, water-stage recorder in forebay on right bank of All-American Canal (also used as auxiliary gage for sta 09527500); tailrace gage with remote recorder logged hourly in control house; calibrated wicket gates for turbine flow and calibrated bypass gates for wasteway flow which are logged for each change. Datum of forebay staff gage is 150.00 ft (45.720 m); that of tailrace staff gage is 0.00 ft (0.000 m); elevation of sill of bypass gates is 147.88 ft (45.074 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent above 1,200 ft^3/s (34.0 m^3/s) and good below. Daily discharge computed from flowmeter equipment or from head and gate openings on wicket gates. Records show water released through Pilot Knob powerplant and wasteway from All-American Canal and returned to Colorado River through Rockwood gates. Pilot Knob wasteway completed in summer of 1938 and first flow occurred Feb. 5, 1939. Pilot Knob powerplant was completed in January 1957 and first flow occurred Jan. 14, 1957. See table below for monthly return flow by Pilot Knob wasteway only.

COOPERATION.--Midnight readings of flowmeter, recorder graph of forebay, and record of tailrace elevation and gate openings furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8,350 ft^3/s (236 m^3/s) Jan. 26, 1958; no flow for long periods.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2000	1630	1620	1660	2280	3900	6400	7390	5600	6800	4940	6160
2	2000	1500	1500	1890	2460	4480	6660	6950	5610	6800	4790	6030
3	2010	1500	1500	1440	2520	5160	6540	6820	5630	6660	5430	5360
4	2000	1430	1350	1290	1980	5270	6370	6410	5700	6760	4320	5550
5	2000	1350	1200	998	1350	4460	6150	5560	5550	6370	3540	6100
6	2000	1500	1200	1000	1440	3060	6110	5400	5320	6750	3240	6470
7	2010	1550	1200	1000	1500	3860	5840	5300	5460	6180	3280	6380
8	2070	1700	1200	1000	1500	5150	6030	4830	5670	6000	3790	5810
9	2200	1490	1140	1490	1260	5380	6200	4650	5350	6000	4300	4910
10	2200	1300	1380	2300	1070	5270	6110	5010	5540	5890	5080	4700
11	2100	1610	1640	2600	1130	5950	6010	5480	6000	6560	5160	4960
12	2000	1330	1570	1510	1270	7610	5630	5780	5490	7000	4830	5280
13	2000	1200	1010	1230	1610	7900	6160	5700	5140	6720	4790	5340
14	2000	1200	1320	1200	3440	7800	5650	6250	5600	6120	4340	5780
15	2570	1190	1080	1200	4430	7700	6100	5970	6590	6400	5000	5360
16	3530	1200	1000	1200	3070	7820	6010	5960	6480	6440	5780	5010
17	2730	1320	1650	1200	2190	8060	5820	5980	6140	6400	6620	4720
18	1940	1520	1640	1200	2050	7970	6080	5750	6360	6400	6540	4170
19	1590	1640	1500	1200	2620	7700	5820	5400	5740	6400	6570	5030
20	1440	1990	1500	1200	3160	7490	5890	5410	6280	6460	5750	5040
21	1850	2000	1500	1060	3980	7120	5710	5660	6640	6500	5510	5650
22	2000	1950	1790	1000	4000	6720	5600	5520	7150	6500	5780	5040
23	2050	1810	1200	1000	4000	6420	5500	5600	7080	6500	6610	4810
24	2300	2100	1200	998	3690	6030	5790	5600	6680	6220	6900	4670
25	1690	2120	1200	1000	2870	6000	6000	5600	6600	6200	6710	4800
26	1500	2240	3000	1000	2920	6970	6060	5600	6800	6020	6520	5010
27	1500	2000	2110	1050	2500	7640	6640	5630	6980	6100	6500	5560
28	1560	2000	1740	1230	2640	7430	6280	5700	7000	5770	6780	5960
29	1710	1990	1400	1580	3870	7760	6490	5700	6990	5460	6400	5760
30	1800	1930	1350	4000	---	7620	7060	5700	6820	4930	5930	5170
31	1800	---	1660	3920	---	6960	---	5680	---	4840	6680	---
TOTAL	62150	49290	45550	45666	73000	198700	182710	177990	184390	194170	168410	160890
MEAN	2005	1643	1463	1473	2517	6410	6090	5742	6146	6264	5433	5363
MAX	3530	2240	3000	4000	4430	8060	7060	7390	7150	7000	6900	6670
MIN	1440	1190	1000	998	1070	3080	5500	4650	5140	4840	3240	4170
AC-FT	123300	97770	89950	90580	144800	394100	362400	353000	365700	385100	334000	319100
(†)	28	44	0	179	0	0	0	0	0	0	0	0

CAL YR 1979 TOTAL 662309.00 MEAN 1815 MAX 6940 MIN .00 AC-FT 1314000 † 72
WTR YR 1960 TOTAL 1542716.00 MEAN 4215 MAX 8060 MIN 998 AC-FT 3060000 † 251

† Return flow, in acre-feet, by Pilot Knob Wasteway (included in daily discharge table).

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09527500 ALL-AMERICAN CANAL BELOW PILOT KNOB WASTEWAY, CA

LOCATION.--Lat 32°44'07", long 114°43'23", in NW¼SE¼ sec.26, T.16 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, on left bank 0.4 mi (0.6 km) downstream from Pilot Knob wasteway, 6 mi (10 km) west of Yuma, Ariz., 15 mi (24 km) upstream from turnout to Coachella Canal, and 21.2 mi (34.1 km) downstream from intake at Imperial Dam.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 150.00 ft (45.720 m) National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder on right bank 0.4 mi (0.6 km) upstream used to determine head on Pilot Knob check gates (also used as forebay gage for sta 09527000, Pilot Knob powerplant and wasteway). Datum of auxiliary gage is 150.00 ft (45.720 m) NGVD.

REMARKS.--Records excellent. Water is used for power development at three sites below station, and for irrigation in Coachella and Imperial Valleys.

COOPERATION.--Gage-height record and log of gate operation furnished by Imperial Irrigation District.

AVERAGE DISCHARGE.--19 years, 4,684 ft^3/s (132.7 m^3/s), 3,394,000 acre-ft/yr (4,180 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 7,610 ft^3/s (216 m^3/s) April 27, 28, 1976; no flow Jan. 4, 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5400	3660	3020	2420	1610	3250	6510	4140	4450	6200	6890	6010
2	5450	3690	2830	2940	1560	3230	6520	3770	4810	5940	6590	5980
3	5500	3660	2710	3040	1610	3350	6610	3990	5110	5520	5950	6560
4	5310	3640	2920	3120	2010	3810	6660	3960	5440	4910	6400	6330
5	5290	3660	3310	3350	2350	4490	6670	4360	5860	5030	6700	6120
6	5150	3650	3370	2960	2400	5270	5710	5040	5660	5060	7030	6070
7	5050	3610	3280	2860	2320	5070	6350	5650	5330	5680	7230	5890
8	4800	3550	3010	3010	2540	5280	6740	6160	4850	5800	7260	5580
9	4520	3200	3160	2280	2770	5980	6790	6110	4920	5870	7090	5630
10	4500	2980	3380	1300	2980	5850	6590	6600	5180	6460	7070	5880
11	4390	2900	3260	1050	3530	4840	7120	6440	5540	6220	7080	5600
12	4350	3040	3300	1120	4030	3080	7350	5600	5880	6160	7120	5440
13	4450	3120	3410	1260	4190	2830	6830	5360	5170	6350	7330	5440
14	4460	3320	3180	1150	1190	3560	6740	5100	5260	6720	7280	5400
15	3700	3160	2980	1380	1200	3730	6960	5230	4850	6750	6810	5490
16	1670	2840	2960	1620	1240	3780	7090	5100	5060	6670	6420	5600
17	2560	2500	2970	1650	1170	3820	7230	5170	5170	6670	5920	5750
18	3250	2640	3090	1600	716	4400	6980	5080	5460	6470	5960	6240
19	4480	2820	3320	2000	685	4850	7130	5400	6080	6440	6020	5770
20	5040	2860	3310	1640	673	5600	7070	6150	5650	6330	6570	5680
21	4710	2940	2960	2210	566	5860	7140	6060	5850	6420	6720	5860
22	4360	2550	2630	2760	585	6180	7360	6150	5800	6330	6360	5880
23	4600	2680	2160	3140	826	6420	7080	6010	5830	6340	6070	5950
24	4590	2620	1630	3450	997	6850	6870	5460	6190	6560	5780	6140
25	3980	2620	1370	3500	959	6940	6540	4770	6190	6600	5930	6260
26	3960	3010	2000	3600	968	5540	6210	4740	6200	6690	6300	6050
27	3960	3140	2500	3930	1570	5000	5360	4640	6020	6500	6420	5560
28	3860	3350	2740	4120	2160	5470	6360	4820	6020	6620	6200	5190
29	3770	3150	2680	3830	2660	5160	6260	4900	5550	6700	6080	4900
30	3780	3040	2360	1580	---	5150	5170	4930	6100	6890	6110	5180
31	3660	---	2250	1330	---	5760	---	4700	---	6880	5830	---
TOTAL	134550	93600	88050	75200	52065	150400	200000	161590	165480	193780	202520	173430
MEAN	4340	3120	2840	2426	1795	4852	6667	5213	5516	6251	6533	5781
MAX	5500	3690	3410	4120	4190	6940	7360	6600	6200	6890	7330	6560
MIN	1670	2500	1370	1050	566	2830	5170	3770	4450	4910	5780	4900
AC-FT	266900	185700	174600	149200	103300	298300	396700	320500	328200	384400	401700	344000

CAL YR 1979 TOTAL 1697265 MEAN 4650 MAX 7150 MIN 764 AC-FT 3367000
WTR YR 1980 TOTAL 1690665 MEAN 4619 MAX 7360 MIN 566 AC-FT 3353000

Return surface flows below Imperial Dam, AZ-CA

Between Imperial Dam and the international boundary return surface flows from irrigated areas enter the Colorado River through many drains and wasteways in Arizona and California. Other return flows enter the Gila River below the gaging station near Dome (09520500). In addition, return flows collected by the Main Drain and East Main Canal are delivered across the international boundary for use in Mexico.

Diversions for irrigation in the Gila Project in Arizona are made at Imperial Dam by the Gila Gravity Main Canal. (See sta 09522500.) Diversions for the Yuma Project in Arizona and California are made at Imperial Dam by the All-American Canal (see sta 09523000) and by the Yuma Main Canal. (See stas 09524000 and 09525500.) See p. 45I for records of diversions.

See figure 6 on p. 426 for the schematic diagram showing location of diversions and return flows.

09525000. YUMA MAIN CANAL WASTEWAY.--See daily table elsewhere in this report.

09527000. PILOT KNOB POWERPLANT AND WASTEWAY.--See daily table elsewhere in this report.

09527900. MITTRY LAKE OUTLET CHANNEL.
LOCATION.--Water-stage recorder and sharp-crested weir, in NW¼SE¼ sec.14, T.7 S., R.22 W., Hydrologic Unit 15030107, 1,000 ft (300 m) upstream from outlet to Colorado River and Laguna Dam.

PERIOD OF RECORD.--Monthly discharge October 1974 to current year.

REMARKS.--Record shows return flow to Colorado River from Mittry Lake. Prior to Nov. 6, 1974, records furnished by Bureau of Reclamation.

09528600. LAGUNA CANAL WASTEWAY.
LOCATION.--Water-stage recorder and sharp-crested weir, in SE¼SW¼ sec. 14, T.7 S., R.22 W., Hydrologic Unit 15030107, 1,000 ft (300 m) downstream from Laguna Dam and 0.7 mi (1.1 km) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River. Flow record computed from standard weir rating.

09528800. LEVEE CANAL WASTEWAY.
LOCATION.--Water-stage recorder and sharp-crested weir, in SE¼SW¼ sec.4, T.8 S., R.22 W., Hydrologic Unit 15030107, 1,000 ft (300 m) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River.

09529000. NORTH GILA DRAIN NO. 1.
LOCATION.--Water-stage recorder, in SE¼SW¼ sec.4, T.8 S., R.22 W., Hydrologic Unit 15030107, 0.25 mi (0.40 km) upstream from outlet to Colorado River and 5.5 mi (8.8 km) downstream from Laguna Dam. No gage prior to Oct. 16, 1974.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River. Prior to Oct. 16, 1974, flow records were computed by interpolation between discharge measurements made monthly.

09529050. NORTH GILA DRAIN NO. 3.
LOCATION.--Drain enters wasteway to Gila River in NE¼NE¼ sec.18, T.8 S., R.21 W., Hydrologic Unit 15070201, 1,000 ft (300 m) upstream from Gila River.

PERIOD OF RECORD.--Monthly discharge April 1962 to current year.

REMARKS.--Record shows seepage from Gila Gravity Main Canal. There is no gage; records are computed by interpolation between discharge measurements made monthly.

09529100. FORTUNA WASTEWAY.
LOCATION.--Water-stage recorder and sharp-crested weir, in NE¼ sec.30, T.8 S., R.21 W., Hydrologic Unit 15070201, 1.3 mi (2.1 km) upstream from Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to September 1963, October 1964 to current year.

REMARKS.--Record shows waste water spilled from Gila Gravity Main Canal; flow rarely reaches Gila River.

09529150. NORTH GILA MAIN CANAL WASTEWAY.
LOCATION.--Water-stage recorder in NE¼NW¼ sec.22, T.8 S., R.22 W., Hydrologic Unit 15070201, 1,000 ft (300 m) upstream from outlet to Gila River. Prior to July 1966 water-stage recorder and sharp-crested weir, 1 mi (1.6 km) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District. Prior to July 1966 record shows waste water less flow diverted for irrigation between gage and Gila River.

09529160. SOUTH GILA PUMP OUTLET CHANNEL NO. 3.
LOCATION.--Water-stage recorder in NW¼SE¼ sec.22, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.5 mi (0.8 km) upstream from outlet to Gila River. Prior to Aug. 1, 1965, record obtained by Badger total-flow meter about 500 ft (150 m) downstream.

PERIOD OF RECORD.--Monthly discharge January 1965 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit.

Return surface flows below Imperial Dam, AZ-CA--Continued

09529200. BRUCE CHURCH DRAIN.
LOCATION.--At culvert in NW¼NE¼ sec.21, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.2 mi (0.3 km) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge April 1962 to current year.

REMARKS.--Record shows seepage water from parts of secs. 15, 16, and 21 (Bruce Church Ranch). Flow generally computed by interpolation between discharge measurements; prior to Nov. 30, 1970, and May to Sept. 1979, flow determined from pump rating.

09529240. SOUTH GILA PUMP OUTLET CHANNEL NO. 2.
LOCATION.--Water-stage recorder in SW¼NW¼ sec.28, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.6 mi (1.0 km) upstream from outlet to Gila River; prior to Oct. 18, 1965, outlet was to Wellton-Mohawk Main Outlet Drain. Prior to Aug. 1, 1965, Sparling meter at outlet to Wellton-Mohawk Main Outlet Drain.

PERIOD OF RECORD.--Monthly discharge January 1962 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete channel to the Gila River.

09529250. BRUCE CHURCH WASTEWAY.
LOCATION.--Water-stage recorder and sharp-crested weir, in SE¼SE¼ sec.20, T.8 S., R.22 W., Hydrologic Unit 15070201, 500 ft (150 m) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Gila River.

09529300. WELLTON-MOHAWK MAIN OUTLET DRAIN (CONVEYANCE CHANNEL).
LOCATION.--Water-stage recorder and Parshall flume in NE¼NW¼ sec.17, T.8 S., R.21 W., Hydrologic Unit 15070201, 7.8 mi (12.6 km) upstream from outlet to Gila River (M.O.D.E. 1), which is 0.6 mi (1.0 km) upstream from mouth of Gila River. Prior to Feb. 20, 1962, gage heights measured from reference point on measuring bridge. Prior to Oct. 1, 1974, gage located 1,000 ft (300 m) upstream without Parshall flume.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows water pumped from numerous wells in Wellton-Mohawk Irrigation and Drainage District to lower the water table. Flow can be discharged to the Gila River or Colorado River by any one of or combination of five outlets. These outlets are: M.O.D.E. 1 (release to Gila River about 7.8 mi or 12.6 km below station); an overflow flume about 11.3 mi (18.2 km) below station releases water to Colorado River; M.O.D.E. 2 (see sta 09531800) releases water to Colorado River above Morelos Dam; and M.O.D.E. 3 (see sta 09531900) releases water to Colorado River below Morelos Dam. Since June 1977 discharge of drain has been released to Wellton-Mohawk Bypass Drain and measured at Arizona-Sonora boundary (see sta 09533300). For water year 1980, no water was released to Gila River through M.O.D.E. 1. Releases of 2,610 acre-ft (3.22 hm^3) to the Gila River through gates 25 ft (7.6 m) below station and 5,600 acre-ft (6.90 hm^3) to the Colorado River 11.3 mi (18.2 km) below station were made in September 1980. Discharge estimated by U.S. Water and Power Resources Service (formerly U.S. Bureau of Reclamation).

09529360. SOUTH GILA PUMP OUTLET CHANNEL NO. 1.
LOCATION.--Water-stage recorder in SW¼NE¼ sec.30, T.8 S., R.22 W., Hydrologic Unit 15070201, 0.2 mi (0.3 km) upstream from outlet to Gila River, which is 0.6 mi (1.0 km) upstream from mouth of Gila River. Prior to Aug. 1, 1965, Sparling flowmeter 300 feet (90 m) upstream.

PERIOD OF RECORD.--Monthly discharge August 1961 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete channel to Gila River.

09529400. SOUTH GILA DRAIN NO. 2.
LOCATION.--Near center of sec.24, T.8 S., R.23 W., Hydrologic Unit 15030107, at outlet to Colorado River. Prior to Oct. 1, 1969, Sparling flowmeter at same site.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows ground-water drainage and occasional waste water from South Gila Valley Unit returned to Colorado River. There is no gage; flow record computed by interpolation between discharge measurements made bimonthly.

09529420. SOUTH GILA TERMINAL WASTEWAY.
LOCATION.--Water-stage recorder and Parshall flume in SW¼NW¼ sec.36, T.8 S., R.23 W., Hydrologic Unit 15030107, 2.0 mi (3.2 km) upstream from outlet to Colorado River. Prior to Aug. 1, 1965, total-flow meter at same site.

PERIOD OF RECORD.--Monthly discharge March 1965 to current year.

REMARKS.--Record shows waste water from South Gila Canal of South Gila Valley Unit returned to Colorado River.

09529440. SOUTH GILA PUMP OUTLET CHANNEL NO. 4.
LOCATION.--Water-stage recorder and broad-crested weir, in NW¼NW¼ sec.26, T.8 S., R.23 W., Hydrologic Unit 15030107, 1.5 mi (2.4 km) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge July 1965 to current year.

REMARKS.--Records shows water pumped from wells in South Gila Valley Unit and conveyed by buried pipe and some open unlined channel to Colorado River.

09529600.--RESERVATION DRAIN NO. 7.
LOCATION.--At downstream end of culvert on State Road 24 (formerly Avenue C), in NE¼NE¼ sec.33, T.15 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian, 0.5 mi (0.8 km) upstream from outlet to Reservation Main Drain. Prior to Oct. 1, 1969, nonrecording gage at same site.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows drainage water from sec.34, T.15 S., R.23 E., and is used with sta 09529700 to determine seepage from All-American Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

Return surface flows below Imperial Dam, AZ-CA--Continued

09529700. RESERVATION MAIN DRAIN NO. 6.
LOCATION.--Nonrecording gage on upstream right piling of Stallnacker Road Bridge (formerly 9th Street Bridge), in SE¼SW¼ sec.32, T.15 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows waste and drainage water from the Reservation Division, and is used with sta 09529600 to determine seepage from All-American Canal, which parallels drain for 4 mi (6.4 km). Flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

09529800. RESERVATION DRAIN NO. 2.
LOCATION.--At upstream side of bridge on White Road (formerly 8th Street), in SW¼NW¼ sec.6, T.16 S., R.23 E., Hydrologic Unit 15030107, San Bernardino meridian, 0.9 mi (1.4 km) upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record used to compute seepage from All-American Canal in sec.31, T.15 S., R.22 E. There is no gage; flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

09529900. RESERVATION DRAIN NO. 3.
LOCATION.--At Jackson Road Bridge (formerly 5th Street Bridge), in SE¼SE¼ sec.10, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 1.0 mi (1.6 km) upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record used to compute seepage from All-American Canal upstream from Yuma Main Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly.

09530000. RESERVATION MAIN DRAIN NO. 4.
LOCATION.--Water-stage recorder in NW¼SE¼ sec.26, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 500 ft (150 m) upstream from railroad culvert. Prior to January 1937, no gage. January 1937 to Apr. 16, 1941, nonrecording gages at culvert 500 ft (150 m) downstream at different datums. April 16, 1941, to Dec. 16, 1971, water-stage recorder at culvert 500 ft (150 m) downstream. May 29, 1974, to Feb. 2, 1976, water-stage recorder with vane meter at present site. Flow enters Yuma Main Canal wasteway channel 200 ft (60 m) downstream from spillway structure. Prior to May 1955 it entered 500 ft (150 m) upstream from outlet of Yuma Main Canal wasteway in SE¼SW¼ sec.26, T.16 S., R.22 E., San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge January 1913 to April 1920, October 1921 to March 1925, January 1934 to current year (calendar year discharge only 1934-36). Prior to October 1955, published as California drainage canal.

REMARKS.--Record shows waste and drainage water from area east of Yuma Main Canal on Reservation Division. Since 1939, seepage from All-American Canal has caused large increase. Flow is not included in the record of Yuma Main Canal wasteway.

09530200. YUMA MESA OUTLET DRAIN.
LOCATION.--Venturi meter with recorder in SE¼SW¼ sec.28, T.16 S., R.22 E., Hydrologic Unit 15030108, San Bernardino meridian, in Arizona, Yuma County, 0.3 mi (0.5 km) from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge July 1970 to current year.

REMARKS.--Record shows water pumped from wells on the Yuma Mesa and conveyed by underground conduit to Colorado River.

COOPERATION.--Records furnished by Bureau of Reclamation prior to July 21, 1972.

09530400. RESERVATION DRAIN NO. 11.
LOCATION.--At outlet to Drain 8-B (Araz Drain), in NE¼NE¼ sec.19, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows drainage from sec.20, T.16 S., R.22 E. Flow at this station, with that at sta 09530500, is used to determine seepage from All-American Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

09530500. DRAIN 8-B.
LOCATION.--Enters Colorado River in SW¼SW¼ sec.19, T.16 S., R.22 E., Hydrologic Unit 15030107, San Bernardino meridian, 4 mi (6.4 km) downstream from outlet of Yuma Main Canal wasteway.

PERIOD OF RECORD.--Monthly discharge March 1948 to current year. Prior to October 1955, published as Araz Drain.

REMARKS.--Record shows seepage from All-American Canal and waste and drainage water west of Yuma Main Canal on the Reservation Division. Flow at this station, with that at sta 09530400, is used to determine seepage from All-American Canal. There is no gage, but due to fairly constant drainage, flow record is computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly at site 1,000 ft (300 m) upstream.

09531800. MAIN OUTLET DRAIN EXTENSION ABOVE MORELOS DAM (M.O.D.E. 2).
LOCATION.--Water-stage recorder and Parshall flume in NW¼NW¼ sec.36, T.16 S., R.21 E., Hydrologic Unit 15030107, San Bernardino meridian, at outlet to Colorado River, 1.7 mi (2.7 km) upstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge November 1965 to current year.

REMARKS.--Record shows water conveyed to Colorado River 1.7 mi (2.7 km) above Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. No flow since July 24, 1973. (See also stas 09529300 and 09531900.)

Return surface flows below Imperial Dam, AZ-CA--Continued

09531850. COOPER WASTEWAY.
LOCATION.--Water-stage recorder and weir, in NE¼NE¼ sec.28, T.8 S., R.24 W., Hydrologic Unit 15030108, 0.6 mi (1.0 km) upstream from Morelos Dam. Prior to July 14, 1971, at site 1 mi (1.6 km) downstream.

PERIOD OF RECORD.--Monthly discharge January 1934 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09531900. MAIN OUTLET DRAIN EXTENSION BELOW MORELOS DAM (M.O.D.E. 3).
LOCATION.--Water-stage recorder and Parshall flume in NW¼SE¼ sec.28, T.8 S., R.24 W., Hydrologic Unit 15030108, at outlet to Colorado River just downstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge November 1965 to current year.

REMARKS.--Record shows water conveyed to Colorado River below Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 09529300, 09531800.)

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09532500. ELEVEN MILE WASTEWAY.
LOCATION.--Water-stage recorder and regulating gate in SE¼NW¼ sec.8, T.9 S., R.24 W., Hydrologic Unit 15030108, 3.2 mi (5.1 km) downstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge January 1924 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09533000. TWENTY-ONE MILE WASTEWAY.
LOCATION.--Water-stage recorder and weir in NE¼NW¼ sec.35, T.10 S., R.25 W., Hydrologic Unit 15030108, 0.6 mi (1.0 km) upstream from outlet to Colorado River, which is 2.4 mi (3.9 km) upstream from southerly international boundary and 2.6 mi (4.2 km) northwest of San Luis, Ariz. Prior to May 1, 1971, water-stage recorder and Parshall flume at site 200 ft (60 m) upstream.

PERIOD OF RECORD.--Monthly discharge March 1939 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09533300. WELLTON-MOHAWK BYPASS DRAIN AT ARIZONA-SONORA BOUNDARY.
LOCATION.--Water-stage recorder and Parshall flume in NW¼NE¼ sec.10, T.11 S., R.25 W., Hydrologic Unit 15030108, on right bank 80 ft (24 m) upstream from the Arizona boundary, 550 ft (168 m) east of the thalweg of Colorado River, and 1.8 mi (2.9 km) west of San Luis, Ariz.

PERIOD OF RECORD.--Monthly discharge June 1977 to current year.

REMARKS.--Record shows water conveyed to the Santa Clara Slough, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 09529300, 09531800, 09531900.)

COOPERATION.--Record furnished by International Boundary and Water Commision (U.S. Section).

09534000. MAIN DRAIN.
LOCATION.--Flowmeters in discharge pipes at pumping plant in SE¼NE¼ sec.11, T.11 S., R.25 W., Hydrologic Unit 15030108, 0.4 mi (0.6 km) west of San Luis, Ariz. Prior to Apr. 1, 1969, rated pumps with forebay and afterbay gages to measure head.

PERIOD OF RECORD.--Monthly discharge January 1919 to current year.

REMARKS.--Record shows flow which consists mostly of drainage water from the Valley Division which is pumped across the Arizona-Sonora boundary for use in Mexico. Flowmeters checked by discharge measurements made by International Boundary and Water Commission (U.S. Section).

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09534300. WEST MAIN CANAL WASTEWAY.
LOCATION.--Water-stage recorder and weir, in NW¼NE¼ sec.11, T.11 S., R.25 W., Hydrologic Unit 15030108, 0.3 mi (0.5 km) upstream from outlet to Main drain, and 0.4 mi (0.6 km) west of San Luis, Ariz. Prior to Aug. 1, 1975, at site 150 ft (46 m) upstream from outlet to Main drain.

PERIOD OF RECORD.--Monthly discharge February 1971 to current year.

REMARKS.--Record shows waste water from Valley Division which is discharged across the Arizona-Sonora boundary for use in Mexico.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09534500. EAST MAIN CANAL WASTEWAY.
LOCATION.--Water-stage recorder and weir, in NW¼SW¼ sec.12, T.11 S., R.25 W., Hydrologic Unit 15030108, 0.3 mi (0.5 km) upstream from outlet to Main drain, and 0.2 mi (0.3 km) west of San Luis, Ariz.

PERIOD OF RECORD.--Monthly discharge January 1924 to June 1928, January 1932 to December 1933, April 1935 to current year. Calendar year estimates 1934 and 1935, published in WSP 1313.

REMARKS.--Record shows amount of unused water at the extreme end of the Valley Division which is discharged across the Arizona-Sonora boundary for use in Mexico.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

Return surface flows below Imperial Dam, AZ-CA--Continued

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Mittry Lake Outlet Channel 09527900	Laguna Canal wasteway 09528600	Levee Canal wasteway 09528800	North Gila Drain No. 1 09529000	North Gila Drain No. 3 09529050	Fortuna wasteway 09529100
October	493	0	91	398	0	50
November	410	0	108	360	0	31
December	319	0	193	333	0	19
CAL YR 1979	6,230	0	1,080	3,770	0	471
January	537	0	148	293	0	18
February	459	0.6	112	288	0	17
March	553	0	99	286	0	18
April	549	0	148	424	0	18
May	693	0	121	432	0	119
June	615	0	143	407	0	128
July	1,050	0	251	618	0	18
August	1,080	0	218	635	0	84
September	627	0	120	595	0	31
WTR YR 1980	7,380	0.6	1,750	5,070	0	550

Month	North Gila Main Canal wasteway 09529150	South Gila Pump Outlet Channel No. 3 09529160	Bruce Church Drain 09529200	South Gila Pump Outlet Channel No. 2 09529240	Bruce Church wasteway 09529250
October	0	816	5.4	1,970	6.1
November	0	595	22	1,440	72
December	0	574	55	2,020	10
CAL YR 1979	13	8,840	351	18,290	122
January	0	1,060	49	2,020	20
February	0	1,380	19	1,890	8.6
March	0	1,480	32	1,920	1.8
April	0	1,430	65	1,830	0.5
May	0	1,480	112	1,960	0.2
June	0	1,540	98	1,860	0.2
July	0	1,580	84	1,830	0.3
August	0	1,550	120	1,610	1.9
September	0	1,450	107	1,470	105
WTR YR 1980	*0	14,950	768	21,820	228

* Dike placed across wasteway to prevent backwater from Gila River on January 23, 1979.

Month	Wellton-Mohawk Main Outlet Drain 09529300	South Gila Pump Outlet Channel No. 1 09529360	South Gila Drain No. 2 09529400	South Gila Terminal wasteway 09529420	South Gila Pump Outlet Channel No. 4 09529440
October	15,720	1,760	61	23	283
November	15,930	1,880	71	50	235
December	17,160	1,120	58	44	192
CAL YR 1979	179,400	22,030	565	640	4,560
January	17,640	1,490	56	28	459
February	15,090	2,100	82	52	655
March	15,950	2,130	94	86	577
April	16,360	1,990	57	46	508
May	16,990	2,150	27	35	532
June	16,000	1,870	9.3	56	529
July	14,790	2,060	13	63	681
August	16,380	2,060	36	86	799
September	14,990	1,600	22	138	764
WTR YR 1980	193,000	22,220	585	708	6,210

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

Return surface flows below Imperial Dam, AZ-CA--Continued

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	Reservation Drain No. 7 09529600	Reservation Main Drain No. 6 09529700	Reservation Drain No. 2 09529800	Reservation Drain No. 3 09529900	Reservation Main Drain No. 4 09530000	Yuma Mesa Outlet Drain 09530200
October	86	1,110	12	338	3,180	2,000
November	69	996	6.0	294	3,060	2,090
December	70	916	6.0	281	2,800	2,410
CAL YR 1979	1,100	11,000	98	3,190	37,090	17,760
January	61	861	0	222	2,660	2,430
February	66	827	0	207	2,530	1,680
March	89	1,110	6.5	305	4,020	2,090
April	122	1,300	7.7	345	3,220	1,950
May	163	1,290	6.1	410	3,790	1,570
June	165	1,390	12	440	4,350	1,340
July	167	1,750	20	455	5,000	1,160
August	156	1,740	26	460	4,720	1,550
September	133	1,380	19	438	3,840	1,900
WTR YR 1980	1,350	14,670	121	4,200	43,160	22,170

Month	Reservation Drain No. 11 09530400	Drain 8-B 09530500	M.O.D.E. 2 (above Morelos Dam) 09531800	Cooper wasteway 09531850	M.O.D.E. 3 (below Morelos Dam) 09531900	Eleven Mile wasteway 09532500
October	62	322	0	42	0	21
November	31	241	0	88	0	219
December	18	178	0	107	0	178
CAL YR 1979	294	1,910	0	844	3.4	1,360
January	19	175	0	94	0	20
February	17	149	0	72	0	205
March	15	192	0	74	0	135
April	39	250	0	61	0	228
May	54	324	0	72	0	23
June	67	376	0	62	0	202
July	98	414	0	75	0	13
August	101	453	0	40	0	88
September	106	465	0	113	0	20
WTR YR 1980	627	3,540	0	900	0	1,350

Month	Twenty-one Mile wasteway 09533000	Wellton-Mohawk Bypass Drain 09533300	Main Drain 09534000	West Main Canal wasteway 09534300	East Main Canal wasteway 09534500
October	0	15,780	7,820	240	347
November	0	15,920	7,030	294	241
December	0	17,300	6,630	278	298
CAL YR 1979	0	177,900	79,140	3,560	3,540
January	0	17,380	6,010	482	263
February	0	14,900	5,580	356	133
March	0	15,750	7,290	400	154
April	0	16,060	7,780	315	175
May	0	16,810	8,470	222	265
June	0	16,090	8,480	190	239
July	0	15,150	8,780	181	247
August	0	17,120	9,270	226	238
September	0	6,780	8,110	308	309
WTR YR 1980	0	185,000	91,240	3,490	2,910

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09527900 MITTRY LAKE OUTLET CHANNEL NEAR YUMA, AZ

LOCATION.--Lat 32°48'09", long 114°28'05", in NW¼SE¼ sec.14, T.7 S., R.22 W., Yuma County, Hydrologic Unit 15030107, at water-stage recorder and sharp-crested weir, 1,000 ft (305 m) upstream from outlet into Colorado River above Laguna Dam, and 12 mi (19 km) northeast of Yuma.

PERIOD OF RECORD.--September 1974 to current year.

COOPERATION.--Water samples collected by U.S. Water and Power Resources Service.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0240	8.2	1740	8.2	26.0	370	230	77	44	260	5.9	8.2
NOV												
05...	0250	10	1770	8.0	19.5	410	280	89	45	230	5.0	8.1
DEC												
10...	0235	5.1	1720	7.8	14.0	360	200	78	41	230	5.3	8.3
JAN												
07...	0225	10	1700	7.9	26.0	380	150	88	40	210	4.7	8.4
FEB												
04...	0150	15	1670	7.9	--	400	220	93	41	220	4.8	8.0
MAR												
03...	0140	6.9	1730	8.1	17.0	400	210	95	40	210	4.6	8.9
APR												
07...	0230	8.2	1740	7.7	18.0	400	210	95	39	220	4.8	8.8
MAY												
05...	0250	12	1720	8.1	20.5	400	210	96	39	210	4.6	8.6
JUN												
02...	1400	8.5	1710	7.8	24.5	420	240	100	41	200	4.3	7.6
JUL												
07...	0150	15	1680	8.0	--	380	220	87	40	210	4.7	7.7
AUG												
04...	0230	15	1770	7.9	29.0	400	240	91	42	230	5.0	7.9
SEP												
01...	0215	15	1840	7.8	26.5	380	200	83	43	240	5.3	9.9

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
01...	140	520	210	1.7	23	1210	1230	1.65	.09	360	10
NOV											
05...	130	460	200	1.7	20	1170	1150	1.59	.04	350	<10
DEC											
10...	160	450	200	1.6	16	1170	1120	1.59	.18	320	<10
JAN											
07...	230	310	180	1.5	15	--	992	1.35	.09	350	50
FEB											
04...	180	420	180	1.3	17	--	1090	1.48	.11	290	20
MAR											
03...	190	440	190	1.6	15	--	1120	1.52	.08	310	<10
APR											
07...	190	410	180	1.6	15	--	1080	1.47	.03	410	<10
MAY											
05...	190	400	200	1.5	19	--	1090	1.48	.03	310	200
JUN											
02...	180	420	190	1.5	16	--	1080	1.47	.02	50	90
JUL											
07...	160	440	190	.1	16	1110	1090	1.51	.00	280	10
AUG											
04...	160	460	220	1.6	18	1200	1170	1.63	.00	370	<10
SEP											
01...	450	290	220	2.0	21	1450	1180	1.97	.00	420	<10

< Actual value is known to be less than value shown.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529000 NORTH GILA DRAIN NO. 1 NEAR YUMA, AZ

LOCATION.--Lat 32°45'29", long 114°27'18", in NE¼NW¼ sec.9, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15030107, 0.1 mi (0.2 km) upstream from outlet to Colorado River, and 6 mi (10 km) northeast of Yuma.

PERIOD OF RECORD.--October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
22...	1100	6.4	2130	7.9	21.0	540	300	130	51	300	5.6	6.5
NOV												
26...	1010	8.6	1810	7.6	12.0	480	260	110	50	250	5.0	6.8
DEC												
17...	1055	3.8	2280	7.6	11.5	510	260	120	52	320	6.1	6.3
JAN												
28...	1100	4.4	2000	7.7	17.0	460	240	110	45	250	5.1	5.5
FEB												
29...	1210	5.1	2150	7.9	20.0	550	330	130	55	310	5.7	4.9
MAR												
24...	1200	4.3	2650	7.9	16.5	720	450	170	72	360	5.8	7.4
APR												
18...	1215	4.0	2150	7.8	24.0	500	280	120	48	270	5.3	6.6
MAY												
27...	0935	6.3	2100	7.5	18.5	530	300	130	49	270	5.1	5.8
JUL												
22...	1115	8.7	1820	7.6	27.5	440	230	110	41	220	4.5	5.9
AUG												
25...	1010	10	1880	7.6	25.5	440	330	110	41	230	4.8	5.8
SEP												
24...	1130	10	1950	7.6	22.5	450	230	110	43	250	5.1	7.1

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
22...	230	560	250	.7	23	--	1460	1.97	.40	350	10
NOV											
26...	220	470	240	.5	20	1330	1280	1.81	.40	250	<10
DEC											
17...	250	590	260	.5	21	1560	1520	2.12	.42	370	10
JAN											
28...	220	500	220	.6	19	1290	1280	1.75	.44	320	40
FEB											
29...	220	560	250	.6	24	1460	1470	1.99	.40	360	40
MAR											
24...	270	720	300	.7	20	1860	1820	2.53	.72	460	40
APR											
18...	220	500	220	.7	23	1440	1330	1.96	1.0	340	20
MAY											
27...	230	510	230	.6	22	1390	1360	1.89	.36	330	‡160
JUL											
22...	210	430	190	.7	19	1200	1150	1.63	.51	210	<10
AUG											
25...	110	470	240	.6	22	1280	1190	1.74	.31	340	<10
SEP											
24...	220	460	220	.7	20	1290	1250	1.75	.44	330	<10

< Actual value is known to be less than value shown.
‡ Questionable value, not verified.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529050 NORTH GILA DRAIN NO. 3 NEAR YUMA, AZ

LOCATION.--Lat 32°44'28", long 114°26'39", in NE¼NE¼ sec.18, T.8 S., R.21 W., Yuma County, Hydrologic Unit 15070201, 0.2 mi (0.3 km) upstream from outlet to Gila River, and 10 mi (16 km) east of Yuma.

PERIOD OF RECORD.--October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1965-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)
OCT		
22...	1115	.00
NOV		
26...	1025	.00
DEC		
17...	1110	.00
JAN		
28...	1115	.00
FEB		
29...	1225	.00
MAR		
24...	1115	.00
APR		
18...	1230	.00
MAY		
27...	0950	.00
JUN		
23...	1000	.00
JUL		
22...	1130	.00
AUG		
25...	1025	.00
SEP		
24...	1145	.00

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529160 SOUTH GILA PUMP OUTLET CHANNEL NO. 3 NEAR YUMA, AZ

LOCATION.--Lat 32°43'04", long 114°30'12", in NW¼SE¼ sec.22, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, at gaging station 0.5 mi (0.8 km) upstream from outlet to Gila River, and 6 mi (10 km) east of Yuma.

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1965-68 available from district office in Tucson, Ariz.

COOPERATION.--Daily specific conductance record furnished by, and water samples collected by U.S. Water and Power Resources Service.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 5,210 micromhos Aug. 27, 1979; minimum observed, 3,020 micromhos Nov. 7, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 5,030 micromhos May 24; minimum observed 3,020 micromhos Nov. 7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0425	28	4760	7.8	22.0	940	560	230	90	700	9.9	9.0
08...	0320	28	4750	8.0	21.0	920	540	220	92	690	9.9	10
22...	0355	10	3220	7.7	21.0	830	500	200	80	430	6.5	8.0
NOV												
05...	0345	10	3260	7.9	22.0	792	468	205	68	410	6.3	8.0
12...	0205	10	3250	7.7	--	784	465	202	68	390	6.1	8.5
19...	0345	10	3250	7.9	22.0	793	475	202	70	390	6.0	7.2
26...	0300	10	3270	7.8	19.5	829	494	200	80	400	6.0	8.0
DEC												
03...	0240	11	3280	7.5	20.5	812	491	180	88	400	6.1	7.2
10...	0345	11	3190	7.8	20.5	787	466	175	85	400	6.2	7.5
17...	0315	10	3230	7.5	16.5	783	462	190	75	430	6.7	8.5
24...	0330	10	3250	7.6	21.0	758	438	180	75	420	6.6	8.8
31...	0245	10	3250	7.6	21.0	779	460	180	80	420	6.5	9.0
JAN												
07...	0250	10	3070	7.8	19.5	775	456	180	79	400	6.3	9.0
14...	0330	28	4240	7.9	21.0	787	394	180	82	600	9.3	9.0
28...	0325	24	4270	7.7	23.0	803	413	188	81	630	9.7	8.5
FEB												
04...	0305	23	4280	7.6	21.0	829	439	195	83	630	9.5	8.5
11...	0200	24	4210	7.7	21.0	840	446	200	83	620	9.3	8.1
18...	0340	24	4290	7.8	23.0	791	394	195	74	630	9.7	9.0
25...	0350	23	4280	7.6	21.0	738	344	190	64	630	10	8.3
MAR												
03...	0213	24	4350	7.8	21.5	840	444	198	84	615	9.2	7.4
10...	0240	24	4360	7.8	22.0	811	414	190	82	640	9.8	10
17...	0350	24	4410	7.9	21.0	772	376	192	71	675	11	8.8
24...	0215	24	4380	8.2	21.0	805	418	192	79	645	9.9	8.0
31...	0315	24	4400	7.7	23.5	793	475	184	81	620	9.6	7.8
APR												
07...	0345	24	4320	7.8	21.5	766	368	175	80	630	9.9	9.5
14...	0210	24	4370	7.8	22.0	780	380	174	84	650	10	9.0
21...	0250	24	4340	7.9	26.0	774	370	175	82	630	9.9	9.2
28...	0325	24	4320	8.1	21.0	770	374	175	81	650	10	8.9
MAY												
05...	0305	25	4280	7.8	21.5	795	399	185	81	620	9.6	9.0
12...	0505	25	4300	7.9	20.5	736	343	158	83	620	9.9	9.0
19...	0205	24	4380	7.9	22.0	769	375	176	80	650	10	9.8
26...	0145	26	4900	7.9	21.5	866	507	200	89	725	11	9.8
JUN												
02...	0220	26	4830	7.8	22.0	931	561	218	94	715	10	9.8
09...	0245	26	4870	7.9	23.0	934	570	216	96	670	9.5	10
16...	0150	26	4850	7.7	21.5	883	516	202	92	725	11	10
23...	0510	26	4750	8.0	25.5	916	552	212	94	690	9.9	11
30...	0335	25	4820	7.7	22.0	931	561	218	94	700	10	10
JUL												
07...	0200	25	4810	7.6	21.5	886	522	205	91	730	11	11
14...	0500	25	4740	7.6	25.5	914	550	211	94	660	9.5	10
21...	0245	25	4680	7.6	21.0	913	546	214	92	700	10	9.9
28...	0200	26	4580	7.7	22.0	845	484	200	84	680	10	9.6
AUG												
04...	0305	26	4630	7.6	--	887	522	215	85	670	9.8	10
11...	0400	26	4720	7.9	22.0	857	490	208	82	685	10	10
18...	0155	26	4680	7.6	21.0	926	562	216	94	675	9.7	11
25...	0345	21	4790	7.6	27.0	925	558	217	93	730	10	11
SEP												
01...	0335	26	4700	7.7	22.0	889	531	206	91	670	9.8	11
08...	0150	26	4530	7.9	21.0	896	529	207	92	690	10	11
15...	0310	25	4910	8.2	26.0	880	515	214	84	690	10	9.4
22...	0340	26	4590	7.9	21.0	893	532	211	89	690	10	11
29...	0155	21	4780	7.5	21.5	901	534	209	92	720	10	10

09529160 SOUTH GILA PUMP OUTLET CHANNEL NO. 3 NEAR YUMA, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)
OCT												
01...	460	0	377	600	1000	.7	26	3020	2910	4.11	1.1	4.8
08...	460	0	377	610	1000	1.6	26	3050	2890	4.15	.86	3.8
22...	400	0	328	520	660	.7	28	2210	2130	3.01	.59	2.6
NOV												
05...	396	0	325	360	690	.5	28	2090	1970	2.84	.81	3.6
12...	388	0	318	370	650	.8	30	2100	1910	2.66	.75	3.3
19...	388	0	318	365	660	.7	28	2080	1920	2.83	.61	2.7
26...	408	0	335	360	680	.4	28	2110	2000	2.87	.20	.90
DEC												
03...	392	0	322	370	680	.6	28	2010	1950	2.73	.79	3.5
10...	392	0	322	405	660	.7	30	2000	1960	2.72	.77	3.4
17...	392	0	322	410	690	.5	30	2050	2030	2.79	.36	1.6
24...	390	0	320	375	670	.5	30	1980	1950	2.69	.81	3.6
31...	390	0	320	390	690	.4	28	2110	1990	2.87	.79	3.5
JAN												
07...	386	0	317	380	670	.2	30	1960	1940	2.67	.88	3.9
14...	480	0	394	530	820	.7	31	2580	2500	3.51	1.5	6.6
28...	476	0	390	580	820	.4	31	2640	2580	3.59	1.3	5.7
FEB												
04...	476	0	390	590	840	.1	28	2670	2610	3.63	1.2	5.2
11...	482	0	395	570	840	.8	32	2620	2600	3.56	1.3	5.6
18...	484	0	397	550	840	.7	32	2610	2570	3.55	1.4	6.0
25...	480	0	394	560	820	.7	33	2604	2540	3.54	.63	2.8
MAR												
03...	484	0	397	580	840	.5	37	2620	2600	3.56	1.0	4.5
10...	484	0	397	600	820	.9	38	2620	2620	3.56	1.2	5.2
17...	484	0	397	605	840	.8	31	2700	2660	3.67	.95	4.2
24...	472	0	387	616	840	.9	30	2670	2650	3.63	1.1	4.7
31...	388	0	318	596	830	.8	28	2560	2540	3.48	1.0	4.5
APR												
07...	486	0	399	528	840	.9	31	2590	2540	3.52	.77	3.4
14...	488	0	400	598	820	1.6	30	2790	2610	3.79	1.2	5.2
21...	492	0	404	576	790	.8	33	2590	2540	3.52	1.1	5.0
28...	484	0	397	552	840	.8	31	2600	2580	3.54	.88	3.9
MAY												
05...	484	0	397	602	830	.9	30	2620	2600	3.56	1.3	5.7
12...	480	0	394	550	830	.9	31	2550	2520	3.47	.56	2.5
19...	480	0	394	576	800	.8	32	2600	2570	3.54	1.0	4.5
26...	438	0	359	600	1020	.7	31	2940	2900	4.00	.99	4.4
JUN												
02...	452	0	371	612	1010	.8	30	--	2920	3.97	.79	3.5
09...	444	0	364	652	970	.8	32	2900	2870	3.94	1.0	4.5
16...	448	0	367	614	1020	.9	30	2930	2920	3.98	1.3	5.6
23...	444	0	364	670	1000	.8	30	2930	2930	3.98	.95	4.2
30...	452	0	371	592	1010	.8	30	2890	2880	3.93	.54	2.4
JUL												
07...	444	0	364	600	1020	.8	21	3120	2900	4.24	.88	3.9
14...	444	0	364	588	1000	.9	30	3030	2820	4.12	.90	4.0
21...	448	0	367	572	1000	.8	30	2890	2840	3.93	1.0	4.5
28...	440	0	361	552	980	.8	29	2810	2760	3.82	1.0	4.6
AUG												
04...	446	0	366	628	980	.8	29	2910	2840	3.96	--	--
11...	448	0	367	584	980	.6	30	2930	2800	3.98	--	--
18...	444	0	364	630	980	.9	30	3040	2860	4.13	1.1	5.0
25...	448	0	367	612	1040	.7	32	3100	2960	4.22	--	--
SEP												
01...	436	0	358	604	980	.7	31	2910	2810	3.96	--	--
08...	448	0	367	600	980	.8	30	2980	2830	4.05	--	--
15...	446	0	366	600	980	1.0	30	3070	2830	4.18	--	--
22...	442	0	363	594	970	1.0	31	2890	2820	3.93	--	--
29...	448	0	367	612	1020	.8	31	3290	2920	4.47	--	--

09529160 SOUTH GILA PUMP OUTLET CHANNEL NO. 3 NEAR YUMA, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4910	---	3330	3300	4340	4400	4350	4330	4900	4790	4770	4710
2	4880	3300	3320	3290	4350	4370	4340	4310	4890	4810	4760	4700
3	4890	3320	3330	3310	4340	4380	4280	4340	4860	4820	4760	3790
4	4860	3300	3330	3310	4340	4370	4330	4340	4880	4760	4750	4690
5	4840	3300	3330	3280	4370	4370	4350	4330	4890	4730	4760	4710
6	4810	3120	3300	3270	4350	4390	4340	4560	4860	4790	4750	4690
7	4810	3020	3310	3260	4360	4360	4340	4340	4870	4780	4770	4690
8	4860	3300	3310	3990	4350	4360	4340	4260	4870	4800	4760	4700
9	4860	3300	3290	4070	4360	4370	4330	4310	4850	4830	4750	4690
10	4820	3300	3280	4140	4350	4360	4340	4320	4870	4800	4760	4690
11	4870	3300	3320	4160	4370	4340	4360	4330	4860	4790	4740	4670
12	4840	3290	---	4200	4370	4340	4350	4330	4880	4790	4750	4670
13	---	3290	---	4220	4370	4350	4340	4310	4900	4800	4750	4680
14	---	3280	3150	4240	4290	4340	4330	4340	4830	4790	4760	4690
15	---	3280	3260	4250	4370	4350	4330	4340	4820	4770	4800	4910
16	---	3290	3300	4260	4380	4340	4350	4310	4810	4790	4750	4690
17	---	3310	3330	4270	4370	4360	4340	4340	4810	4610	4720	4720
18	3170	3300	3280	4290	4370	4350	4370	4330	4620	4770	4740	4660
19	3260	3320	3320	---	4370	4330	4380	4320	4820	4810	4740	4660
20	3290	3300	3310	---	4360	4380	4330	4330	4810	4780	4730	4680
21	3240	3310	3270	---	4360	4350	4360	4310	4830	4770	4740	4670
22	3270	3270	3290	---	4360	4370	4330	4300	4820	4780	4960	4680
23	3280	3280	3350	---	4330	4360	4320	4350	4810	4780	4950	4650
24	3170	3300	3290	4270	4360	4340	4330	5030	4840	4740	4950	4660
25	3280	3300	3310	4280	4350	4360	4330	4960	4840	4770	4920	4650
26	3280	3300	3310	4320	4370	4350	4340	4940	4800	4760	4690	4660
27	3290	3310	3300	4340	4370	4340	4340	4920	4770	4770	4700	4660
28	3230	3310	3320	4330	4380	4350	4330	4900	4810	4650	4720	4660
29	---	3300	3290	4330	4360	4330	4340	4910	4800	4780	4690	4870
30	---	3290	3290	4320	---	4350	4350	4900	4810	4770	4530	---
31	---	---	3290	4330	---	4360	---	4910	---	4780	4710	---
MEAN	4090	3280	3300	3990	4360	4360	4340	4490	4840	4770	4760	4660
MAX	4910	3320	3350	4340	4380	4400	4380	5030	4900	4830	4960	4910
MIN	3170	3020	3150	3260	4290	4330	4280	4260	4770	4610	4530	3790

WTR YR 1980 MEAN 4280 MAX 5030 MIN 3020

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529200 BRUCE CHURCH DRAIN NEAR YUMA, AZ

LOCATION.--Lat 32°43'26", long 114°31'07", in NW¼NE¼ sec.21, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, 0.2 mi (0.3 km) upstream from outlet to Gila River, and 5 mi (8 km) east of Yuma.

PERIOD OF RECORD.--October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1965-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUN												
03...	1545	1.7	1240	7.4	27.4	360	220	91	32	120	2.8	5.0
JUL												
01...	0345	4.6	1260	7.6	--	350	210	87	32	130	3.0	6.6
22...	0910	2.8	2340	7.8	30.0	660	370	160	63	280	4.7	9.1
AUG												
25...	0915	7.0	2350	7.7	28.5	680	380	170	62	280	4.7	7.3
SEP												
24...	1110	.00	2430	7.9	25.5	670	350	160	65	300	5.1	14

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUN											
03...	140	320	120	.4	9.3	809	783	1.10	.14	160	30
JUL											
01...	140	340	120	.7	9.9	850	811	1.16	.08	190	30
22...	290	570	240	.8	22	1600	1520	2.18	.00	380	50
AUG											
25...	300	610	260	.8	24	1650	1600	2.24	.37	450	30
SEP											
24...	320	610	260	.9	28	1730	1630	2.35	.00	470	30

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529240 SOUTH GILA PUMP OULET CHANNEL NO. 2 NEAR YUMA, AZ

LOCATION.--Lat 32°42'31", long 114°31'45", in NW¼SW¼ sec.28, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, at gaging station 0.6 mi (1.0 km) upstream from outlet to Gila River, and 4 mi (6 km) east of Yuma.

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT											
01...	0440	33	2780	8.0	23.5	450	220	110	45	420	8.5
08...	0335	33	2790	8.1	22.0	440	200	110	40	430	8.9
15...	0355	32	2780	8.0	22.0	440	210	110	40	420	8.7
22...	0425	30	2520	7.9	22.0	470	240	120	45	440	8.7
29...	0225	31	2770	7.9	22.0	470	240	110	45	430	8.7
NOV											
05...	0400	31	2780	8.0	21.0	438	206	113	38	430	8.9
12...	0245	25	2760	7.8	--	435	202	105	42	430	9.0
19...	0405	9.0	2140	7.8	23.0	435	209	105	42	350	7.3
DEC											
03...	0300	33	2750	7.6	21.5	443	214	95	50	425	8.8
10...	0405	23	2330	7.9	22.0	410	184	90	45	380	8.2
17...	0500	33	2770	7.7	16.0	440	210	107	42	430	8.9
24...	0350	33	2730	7.8	22.0	427	196	102	42	450	9.5
31...	0300	32	2780	7.9	22.0	407	176	102	37	450	9.7
JAN											
07...	0355	33	2780	7.9	19.0	410	181	100	39	435	9.3
14...	0350	32	2810	7.8	22.0	427	196	97	45	463	9.7
21...	0330	31	2790	7.7	23.5	430	200	98	45	435	9.1
28...	0415	33	2760	7.8	22.0	435	209	105	42	435	9.1
FEB											
04...	0325	33	2770	7.7	22.0	439	211	105	43	435	9.0
11...	0210	33	2760	7.7	22.0	410	184	95	42	420	9.0
18...	0400	32	2770	7.9	23.0	403	174	107	33	440	9.5
25...	0400	32	2760	7.7	21.5	431	202	105	41	410	8.6
MAR											
03...	0224	33	2780	7.9	21.0	439	210	105	43	430	8.9
10...	0345	34	2810	7.9	23.0	423	194	102	41	450	9.5
17...	0410	35	2820	7.9	21.5	422	189	100	42	430	9.1
24...	0230	33	2810	8.0	22.0	434	202	108	40	440	9.2
31...	0330	30	2820	7.9	24.0	414	178	95	43	420	9.0
APR											
07...	0400	32	2760	7.9	22.0	402	163	90	43	420	9.1
14...	0215	29	2810	7.9	22.0	429	197	101	43	430	9.0
21...	0355	30	2780	8.0	25.0	427	198	102	42	430	9.0
28...	0340	31	2790	8.0	22.0	427	194	100	43	445	9.4
MAY											
05...	0415	20	2440	8.0	21.5	331	102	75	35	400	9.6
12...	0350	32	2800	7.9	--	436	205	102	44	435	9.1
19...	0220	34	2830	8.0	23.0	417	185	98	42	435	9.3
26...	0200	33	2800	8.0	22.0	435	204	105	42	435	9.1
JUN											
02...	0230	34	2800	7.7	22.0	435	205	105	42	435	9.1
09...	0410	32	2880	8.0	23.0	459	231	108	46	430	8.7
16...	0200	34	2840	7.8	21.5	421	188	96	44	440	9.3
23...	0335	35	2790	8.1	25.5	456	224	107	46	422	8.6
30...	0350	31	2850	7.8	21.0	385	156	90	39	440	9.8
JUL											
07...	0210	30	2820	7.8	21.5	440	210	107	43	430	8.9
21...	0345	29	2850	7.8	17.0	456	226	110	44	435	8.9
28...	0300	29	2840	7.8	22.0	422	190	100	42	450	9.5
AUG											
11...	0410	31	2800	7.9	22.0	408	182	104	36	435	9.4
18...	0205	23	3000	7.8	21.0	470	230	109	48	470	9.4
25...	0400	25	3000	7.7	28.0	464	224	110	46	470	9.5
SEP											
01...	0345	26	3010	7.9	22.0	477	245	112	48	465	9.3
08...	0205	22	3020	7.8	21.0	460	220	105	48	465	9.4
15...	0355	25	3030	8.2	26.5	462	223	111	45	465	9.4
22...	0315	24	2980	7.9	22.0	448	206	107	44	460	9.5
29...	0205	23	2970	7.6	21.5	466	228	111	46	460	9.3

09529240 SOUTH GILA PUMP OUTLET CHANNEL NO. 2 NEAR YUMA, AZ--Continued

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1965-68 available from district office in Tucson, Ariz.

COOPERATION.--Daily specific conductance record furnished by, and water samples collected by, U.S. Water and Power Resources Service.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 3,750 micromhos Nov. 12, 1977; minimum observed, 1,990 Jan. 25, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 3,060 micromhos Aug. 15; minimum observed, 2,170 micromhos Nov. 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC.-FT)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS NO3)
OCT											
01...	6.0	238	420	510	1.3	25	1750	1690	2.38	1.1	5.0
08...	2.0	238	420	510	1.0	21	1770	1680	2.41	--	--
15...	5.0	230	410	510	.8	28	1780	1670	2.42	1.2	5.5
22...	6.0	230	430	530	.9	29	1770	1740	2.41	.90	4.0
29...	6.0	230	450	520	.7	30	1700	1740	2.31	1.2	5.5
NOV											
05...	5.8	233	390	505	1.0	26	1690	1660	2.30	1.7	7.5
12...	5.8	233	390	510	1.2	28	1740	1660	2.38	1.3	5.8
19...	4.5	226	370	445	.8	26	1300	1500	1.77	4.3	19
DEC											
03...	5.5	230	400	500	.9	28	1680	1650	2.28	1.3	5.6
10...	5.0	226	370	435	1.2	28	1510	1500	2.05	2.1	9.2
17...	5.5	230	450	490	.9	27	1720	1700	2.34	1.3	5.6
24...	5.7	231	460	510	.6	30	1760	1740	2.39	1.3	5.6
31...	6.2	231	430	510	1.0	30	1750	1710	2.38	1.7	7.6
JAN											
07...	6.2	230	390	510	.5	28	1670	1650	2.27	1.6	7.2
14...	6.0	231	485	510	1.0	28	1790	1780	2.43	2.1	9.5
21...	5.8	230	390	510	.7	29	1670	1660	2.27	2.1	9.4
28...	5.5	226	410	505	1.1	31	1690	1680	2.30	1.2	5.5
FEB											
04...	5.0	228	400	515	.7	32	1710	1680	2.33	1.1	5.0
11...	5.0	226	380	500	1.2	30	1660	1620	2.26	1.4	6.0
18...	5.8	230	380	510	1.5	31	1680	1650	2.28	.72	3.2
25...	5.2	230	350	510	1.0	32	1650	1590	2.24	.27	1.2
MAR											
03...	4.2	230	390	505	.3	29	1670	1650	2.27	1.1	4.8
10...	6.2	230	420	510	1.1	30	1710	1700	2.33	1.1	5.0
17...	5.9	233	390	500	1.1	28	1660	1640	2.26	1.1	4.8
24...	4.5	235	400	500	1.2	28	1690	1670	2.30	1.4	6.2
31...	4.2	236	356	510	1.5	28	1640	1610	2.23	1.6	7.0
APR											
07...	6.0	239	360	500	1.0	28	1660	1600	2.26	.90	3.9
14...	6.0	233	390	500	1.0	25	1610	1640	2.19	1.4	6.0
21...	5.5	230	390	500	1.1	28	1670	1640	2.27	1.8	8.0
28...	5.4	233	390	505	1.0	24	1680	1660	2.28	1.3	5.8
MAY											
05...	5.5	230	432	380	1.2	29	1530	1510	2.08	2.5	11
12...	5.8	231	416	510	1.0	29	1700	1680	2.31	.27	1.2
19...	6.5	233	368	515	.9	30	1670	1640	2.27	1.2	5.5
26...	5.8	231	410	500	.8	28	1700	1670	2.31	1.5	6.5
JUN											
02...	6.1	230	410	500	1.7	31	1680	1670	2.28	1.2	5.5
09...	5.6	228	436	505	1.1	28	1730	1710	2.35	2.0	8.8
16...	6.2	233	396	520	1.1	27	1700	1680	2.31	2.1	9.4
23...	6.8	233	400	520	1.3	28	1690	1680	2.30	1.5	6.5
30...	6.0	230	358	515	1.6	28	1680	1620	2.28	.27	1.2
JUL											
07...	6.2	230	380	510	1.0	26	1750	1650	2.38	1.4	6.2
21...	6.1	230	392	520	1.0	29	1710	1680	2.33	1.4	6.2
28...	6.5	233	376	520	1.0	28	1700	1670	2.31	1.4	6.0
AUG											
11...	6.1	226	404	500	.9	28	1820	1650	2.48	--	--
18...	6.8	239	450	550	1.0	29	1900	1820	2.58	1.7	7.5
25...	6.6	239	400	570	.9	32	1900	1780	2.58	--	--
SEP											
01...	6.6	233	400	575	.9	31	1830	1780	2.49	--	--
08...	7.3	239	406	570	1.0	32	1790	1780	2.43	--	--
15...	6.4	239	408	570	1.1	28	1890	1780	2.57	--	--
22...	7.1	243	404	570	1.2	31	1900	1770	2.58	--	--
29...	6.2	239	402	580	1.2	28	1890	1780	2.57	--	--

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529240 SOUTH GILA PUMP OUTLET CHANNEL NO. 2 NEAR YUMA, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2890	2820	2810	2800	2790	2790	2720	2800	2810	2800	2880	3010
2	2830	2820	2800	2820	2810	2790	2780	2790	2810	2820	2870	3030
3	2840	2810	2810	2810	2800	2780	2760	2810	2860	2810	2870	3030
4	2850	2820	2810	2810	2780	2790	2760	2790	2870	2810	2870	3020
5	2840	2810	2800	2800	2800	2770	2790	2450	2870	2810	2880	3040
6	2840	2820	2790	2790	2770	2790	2780	2950	2860	2800	2820	3030
7	2850	2810	2390	2800	2780	2770	2780	2940	2850	2800	2810	3010
8	2840	2810	2410	2790	2780	2770	3000	2950	2850	2750	2820	3020
9	2850	2810	2400	2790	2800	2790	2790	2940	2860	2810	2800	3030
10	2830	2820	2400	2840	2800	2790	2790	2800	2860	2800	2820	3020
11	2860	2810	2390	2840	2780	2790	2790	2790	2850	2810	2810	3000
12	2840	2810	2800	2800	2780	2790	2800	2810	2870	2790	2810	3020
13	2870	2810	2810	2810	2790	2790	2790	2800	2820	2810	2960	2970
14	2870	---	2790	2810	2800	2770	2800	2810	2790	2810	3030	2930
15	2860	---	2810	2810	2790	2780	2800	2800	2800	2800	3060	3020
16	2850	---	2800	2780	2800	2780	2810	2800	2800	2770	2950	3010
17	2850	---	2810	2790	2800	2790	2790	2810	2800	2730	2960	3020
18	2840	2170	2790	2780	2790	2780	2800	2810	2810	2850	3030	3020
19	2830	2190	2790	---	2790	2770	2820	2810	2800	2860	3040	2420
20	2850	2730	2810	2790	2790	2780	2800	2810	2790	2860	3030	3020
21	2830	2750	2790	2790	2790	2780	2800	2810	2810	2850	3030	3020
22	2880	2760	2800	2810	2760	2790	2800	2810	2820	2870	3010	3020
23	2890	2770	2800	2810	2790	2770	2780	2810	2810	2860	3020	3010
24	2810	2800	2820	2810	2780	2770	2800	2810	2820	2850	3020	3020
25	2820	2780	2810	2770	2790	2790	2800	2810	2800	2870	3020	3030
26	2810	2790	2860	2800	2790	2790	2800	2810	2810	2870	3030	3020
27	2820	2780	2810	2770	2760	2790	2800	2810	2800	2870	3030	3030
28	2830	2790	2800	2780	2760	2780	2800	2800	2810	2850	2980	3000
29	2840	2790	2810	2800	2780	2790	2800	2800	2800	2760	2950	3000
30	2820	2780	2810	2810	---	2780	2810	2790	2820	2870	2990	3020
31	2820	---	2830	2810	---	2790	---	2800	---	2880	3010	---
MEAN	2840	2750	2740	2800	2790	2780	2800	2810	2820	2820	2940	3000
MAX	2890	2820	2860	2840	2810	2790	3000	2950	2870	2880	3060	3040
MIN	2810	2170	2390	2770	2760	2770	2720	2450	2790	2730	2800	2620

WTR YR 1980 MEAN 2830 MAX 3060 MIN 2170

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529300 WELLTON-MOHAWK MAIN OUTLET DRAIN NEAR YUMA, AZ

LOCATION (Revised).--Lat 32°44'33", long 114°26'10", in NE¼NW¼ sec.17, T.8 S., R.21 W., Yuma County, Hydrologic Unit 15070201, at gaging station, 7.8 mi (12.6 km) upstream from outlet to Gila River, and 11 mi (18 km) east of Yuma.

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT											
01...	0350	240	5300	8.1	--	890	540	210	88	870	13
08...	0240	250	5420	8.1	23.5	890	530	220	85	900	13
15...	0320	260	5270	8.1	20.5	870	520	220	82	840	12
22...	0335	261	5280	8.0	23.5	900	550	220	88	850	12
29...	0315	274	5230	8.1	22.0	890	530	210	87	840	12
NOV											
05...	0325	258	5200	8.1	21.0	854	496	210	80	830	12
12...	0425	285	5080	8.0	--	837	480	195	85	845	13
19...	0325	260	5240	8.1	20.5	867	533	212	87	860	13
26...	0235	267	5210	8.0	17.0	960	612	235	92	840	12
DEC											
03...	0220	280	5170	7.8	19.0	956	597	218	100	790	11
10...	0325	276	5150	8.1	20.0	941	577	212	100	800	11
17...	0245	268	5010	7.9	15.0	899	539	215	88	820	12
24...	0310	278	2200	7.9	21.0	932	573	225	90	800	11
31...	0220	286	5210	8.0	20.5	936	608	225	91	780	11
JAN											
07...	0310	282	5110	8.0	16.0	816	458	225	62	830	13
14...	0310	300	5080	7.8	22.0	862	513	205	85	780	12
21...	0330	289	4950	7.8	20.5	824	474	190	85	790	12
28...	0340	290	5000	7.9	20.0	895	544	210	90	795	12
FEB											
04...	0245	278	4990	7.9	21.5	845	494	200	84	790	12
11...	0320	260	4860	8.0	20.5	862	504	205	85	740	11
18...	0700	230	4930	8.1	21.5	831	487	216	71	750	11
25...	0320	278	4880	7.9	21.0	809	452	212	68	715	11
MAR											
03...	0330	250	4940	8.1	20.5	907	550	218	88	710	10
10...	0300	255	4980	8.0	21.0	875	528	209	86	760	11
17...	0330	251	5070	8.0	21.0	958	597	232	92	760	11
24...	0315	253	5190	8.2	20.0	919	555	228	85	815	12
31...	0255	257	5180	8.0	21.0	895	541	215	87	815	12
APR											
07...	0320	278	5030	8.0	21.0	874	517	210	85	750	11
14...	0255	267	5140	8.1	21.0	922	564	224	88	815	12
21...	0320	272	4960	8.2	25.0	897	543	216	87	750	11
28...	1500	280	4970	8.2	22.0	883	525	215	84	810	12
MAY											
05...	0400	273	4850	8.1	21.5	883	526	215	84	760	11
12...	0320	272	4940	8.0	19.5	912	522	220	88	760	11
19...	0320	278	4990	8.0	23.5	877	523	206	88	785	12
26...	0315	271	4970	8.0	21.0	863	547	212	86	770	11
JUN											
02...	0325	274	4910	8.2	22.0	901	552	219	86	755	11
09...	0350	280	4980	8.0	23.5	907	557	220	87	780	11
16...	0305	274	5080	8.0	24.5	912	558	220	88	770	11
23...	0255	257	4960	8.0	24.5	874	520	210	85	755	11
30...	0315	254	5000	8.0	24.5	899	545	215	88	790	11
JUL											
07...	0300	226	5080	8.0	25.5	913	553	224	86	810	12
14...	0255	251	5040	7.9	26.0	916	560	220	89	775	11
21...	0330	248	4970	8.0	26.5	940	566	228	90	810	11
28...	0340	262	5040	8.0	28.5	892	535	214	87	815	12
AUG											
04...	0320	258	4940	8.0	28.0	879	535	220	80	760	11
11...	0335	270	4950	8.1	25.0	852	502	216	76	780	12
18...	0250	282	4840	8.0	26.5	854	500	215	77	750	11
25...	0320	279	4830	7.9	25.5	870	518	210	84	745	11
SEP											
01...	0315	251	4830	8.0	23.5	840	483	198	84	740	11
08...	0245	253	5000	8.0	24.0	864	510	201	88	765	12
15...	0325	257	4670	8.1	24.5	907	546	218	88	780	11
22...	0315	251	4900	8.1	24.0	865	528	208	84	760	11
29...	0310	257	4870	7.8	26.0	876	555	209	86	780	11

09529300 WELLTON-MOHAWK MAIN OUTLET DRAIN NEAR YUMA, AZ--Continued

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz. Prior to Dec. 1, 1974, samples collected at gage site 1,000 ft (304.8 m) upstream.

COOPERATION.--Daily specific conductance record furnished by, and water samples collected by, U.S. Water and Power Resources Service.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 6,130 micromhos Mar. 20, 1977; minimum observed, 4,560 Sept. 12, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 5,740 micromhos July 25; minimum observed, 4,560 micromhos Sept. 12.

09529300 - WELLTON-MOHAWK MAIN OUTLET DRAIN NR. YUMA, ARIZ.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)
OCT											
01...	9.0	353	820	1040	2.8	25	3350	3280	4.56	2.0	9.0
08...	10	361	890	1100	2.2	28	3400	3430	4.62	2.0	9.0
15...	8.0	353	880	1000	2.3	28	3370	3310	4.58	2.9	13
22...	8.0	353	870	1000	2.2	24	3380	3320	4.60	2.5	11
29...	8.0	353	860	1000	1.8	30	3300	3260	4.49	2.5	11
NOV											
05...	10	358	860	1000	2.4	27	3370	3250	4.58	2.7	12
12...	10	358	860	990	2.3	30	2990	3240	4.07	2.3	10
19...	11	354	870	1060	2.0	28	3400	3350	4.62	2.3	10
26...	11	354	885	1000	1.9	29	--	3330	4.53	1.4	6.0
DEC											
03...	10	359	880	980	1.8	28	3250	3230	4.42	1.5	6.7
10...	7.5	364	870	1000	2.2	30	3250	3250	4.42	1.3	5.8
17...	9.2	361	870	1020	.9	32	3290	3280	4.47	1.1	4.7
24...	9.5	359	870	990	1.9	36	3300	3250	4.49	2.0	9.0
31...	9.8	328	870	1000	1.6	32	3280	3220	4.46	2.5	11
JAN											
07...	10	359	840	980	1.6	30	3230	3210	4.39	2.5	11
14...	10	349	800	960	1.6	30	3160	3100	4.30	3.2	14
21...	9.5	351	810	930	1.7	31	3090	3070	4.20	2.7	12
28...	8.8	351	860	960	2.0	31	3200	3180	4.35	3.5	15
FEB											
04...	8.0	351	795	940	1.8	33	3110	3070	4.23	2.0	9.0
11...	8.1	358	830	900	6.0	40	3060	3040	4.16	2.9	13
18...	8.8	344	760	940	3.6	30	3120	3000	4.24	2.3	10
25...	8.3	358	725	900	1.8	32	2930	2890	3.98	2.0	8.8
MAR											
03...	7.5	358	750	900	1.8	30	2960	2930	4.03	2.3	10
10...	10	348	830	940	2.0	30	3080	3080	4.19	2.0	9.0
17...	9.2	361	840	940	3.6	31	3150	3130	4.28	2.0	9.0
24...	8.0	364	888	980	2.4	32	3270	3270	4.45	1.8	8.0
31...	7.5	354	906	970	1.8	30	3270	3250	4.45	2.0	9.0
APR											
07...	9.5	358	814	930	2.0	31	3090	3050	4.20	1.2	5.5
14...	9.8	358	870	940	3.6	32	3260	3210	4.43	1.8	8.0
21...	9.1	354	864	920	2.0	32	3130	3110	4.26	3.2	14
28...	9.4	358	876	930	2.3	27	3220	3180	4.38	2.3	10
MAY											
05...	9.2	358	874	890	2.8	30	3110	3090	4.23	2.0	9.0
12...	11	390	824	940	1.8	30	3130	3120	4.26	2.9	13
19...	10	354	860	920	2.1	32	3140	3120	4.27	1.9	8.5
26...	9.0	336	808	940	1.9	32	3110	3070	4.23	2.4	10
JUN											
02...	9.4	349	864	900	3.2	30	3120	3090	4.24	2.3	10
09...	9.7	351	860	940	2.2	34	3170	3150	4.31	2.0	9.0
16...	10	354	832	940	1.2	32	3070	3120	4.18	2.3	10
23...	10	354	895	920	2.0	33	3150	3130	4.28	2.2	9.8
30...	9.7	354	884	960	2.2	30	3220	3200	4.38	2.7	12
JUL											
07...	10	361	910	970	2.6	32	3320	3270	4.52	2.0	9.0
14...	9.4	356	884	940	2.8	32	3230	3170	4.39	1.6	7.0
21...	9.2	374	884	930	2.1	29	3230	3220	4.39	1.8	8.0
28...	9.7	358	856	940	2.0	27	3190	3170	4.34	2.0	9.0
AUG											
04...	9.4	344	824	940	2.5	27	3220	3070	4.38	--	--
11...	9.7	351	816	920	1.6	32	3100	3060	4.22	--	--
18...	9.9	354	786	900	2.1	34	3120	3000	4.24	1.9	8.6
25...	10	353	836	910	1.8	37	3130	3050	4.26	--	--
SEP											
01...	9.8	358	828	860	1.7	33	3120	2970	4.24	--	--
08...	11	354	848	940	2.3	30	3390	3120	4.61	--	--
15...	10	361	842	960	2.4	29	3170	3150	4.31	--	--
22...	9.7	338	828	940	1.9	25	3140	3060	4.27	--	--
29...	9.2	322	940	920	2.8	25	3180	3160	4.32	--	--

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529300 WELLTON-MOHAWK MAIN OUTLET DRAIN NEAR YUMA, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5390	5300	5170	5210	5160	---	5060	4970	5000	4930	4990	4850
2	5430	5340	5180	5220	5260	4980	5090	4990	4960	4950	5030	4860
3	5500	5350	5200	5120	5150	4990	4960	5010	5000	5060	4990	4860
4	5730	5290	5320	5260	5130	5000	5040	4980	4990	4990	4990	4900
5	5610	5300	5200	5270	5000	4960	5030	4920	5140	4960	5010	5030
6	5540	5370	5240	5260	5000	5070	5050	4920	5050	5070	5040	4980
7	5550	5300	5250	5140	4970	5040	5010	4940	5040	5060	5060	4980
8	5550	5180	5290	5160	4980	5060	5020	4950	5060	5080	5110	5020
9	5470	5200	5250	5180	5000	5030	4970	4920	4980	5040	5120	5020
10	5320	5180	5200	5190	4920	4980	5080	4960	5010	5090	5050	4740
11	5510	5180	5220	5120	4930	4980	5040	4980	4980	5050	4960	4670
12	5600	5180	5280	5120	4930	4950	5100	5010	5030	5110	4920	4560
13	5460	5210	5210	5110	4960	5000	4980	5070	5050	5140	4930	4690
14	5390	5180	5220	5080	4970	5060	5100	5010	5020	5090	4940	4930
15	5350	5250	5240	5050	4990	5070	5110	5020	5080	5020	4980	4700
16	5340	5370	5290	5130	5090	5040	5160	5010	5050	5040	4840	4840
17	5340	5310	5230	5040	5060	5010	5140	4900	4990	4940	4950	4920
18	5350	5370	5270	5020	5010	5030	4970	4980	4980	5030	4860	4940
19	5400	5290	5320	5030	5110	5100	4940	4940	4920	5090	4920	4940
20	5360	5290	5300	4970	4990	5070	4940	4980	4720	5100	4970	4910
21	5360	5350	5250	4950	5090	5010	5000	5060	4840	4970	4940	4950
22	5410	5420	5290	4970	5000	5120	5020	4980	4900	5070	4910	4930
23	5400	5380	5260	5010	4940	5100	4990	5000	4960	5080	4930	4920
24	5390	5250	5290	5020	4880	5150	4970	5010	4940	5060	4870	4870
25	5340	5220	5260	4980	4880	4750	4990	5050	4970	5740	4860	4940
26	5320	5260	5130	5040	5020	5160	5070	5010	5090	4990	4850	4660
27	5410	5290	5150	5060	4980	5080	5020	4970	5010	5190	4900	4950
28	5270	5210	5220	5080	5000	5020	5000	4980	5040	5040	4860	4930
29	5340	5290	5170	5070	4970	5080	5060	4960	5040	5050	4960	4940
30	5400	5340	5220	5040	---	5100	5050	4800	4970	5010	4850	4930
31	5420	---	5220	5160	---	5130	---	5010	---	5000	4840	---
MEAN	5430	5280	5240	5100	5010	5040	5030	4980	4990	5070	4950	4880
MAX	5730	5420	5320	5270	5260	5160	5160	5070	5140	5740	5120	5030
MIN	5270	5180	5130	4950	4880	4750	4940	4800	4720	4930	4840	4560

WTR YR 1980 MEAN 5080 MAX 5740 MIN 4560

09529360 SOUTH GILA PUMP OUTLET CHANNEL NO. 1 NEAR YUMA, AZ

LOCATION.--Lat 32°42'24", long 114°33'19", in SW¼NE¼ sec.30, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, at gaging station, 0.2 mi (0.3 km) upstream from outlet to Gila River, and 4 mi (6 km) east of Yuma.

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0515	33	2740	7.8	23.0	450	200	93	52	450	9.5	5.0
08...	0400	43	3000	8.0	21.0	540	290	130	50	460	8.7	4.0
09...	0500	7.1	4170	--	23.5	870	600	210	84	550	8.1	8.8
15...	0410	32	2980	8.0	22.0	540	300	140	50	440	8.1	5.0
22...	0500	22	3010	7.8	22.0	580	330	140	55	450	8.2	6.0
29...	0215	4.8	4090	8.0	20.5	730	310	190	62	630	10	5.0
NOV												
05...	0415	28	2940	7.9	20.5	518	277	138	42	450	8.6	6.0
12...	0245	26	2960	7.7	--	539	295	130	52	450	8.4	6.0
19...	0435	23	3050	8.0	22.0	539	290	130	52	450	8.4	6.0
26...	0330	20	3050	8.0	19.5	551	302	130	55	450	8.3	6.0
DEC												
03...	0335	29	3050	7.6	21.0	542	296	118	60	450	8.4	4.5
10...	0435	37	3000	7.8	21.0	544	295	119	60	440	8.2	5.5
24...	0425	15	3360	7.7	21.0	630	376	150	62	490	8.5	7.0
31...	0325	21	3100	7.8	22.0	581	326	210	55	470	7.5	6.8
JAN												
14...	0415	19	3050	7.8	22.0	506	255	117	52	475	9.2	6.2
21...	0347	23	3050	7.7	21.5	524	275	124	52	440	8.4	6.0
28...	0430	39	2990	7.7	22.0	480	244	110	50	470	9.3	5.0
FEB												
04...	0400	29	2990	7.6	22.0	493	250	115	50	470	9.2	5.5
11...	0230	39	2990	7.7	20.0	609	370	125	72	420	7.4	5.5
18...	0415	36	2990	7.8	22.0	544	302	132	52	440	8.2	6.2
25...	0435	36	2980	7.8	21.5	547	308	135	51	425	7.9	5.5
MAR												
03...	0250	36	3010	7.8	23.5	547	304	135	51	430	8.0	4.5
10...	0400	35	3030	7.9	23.0	462	220	129	34	480	9.7	6.5
17...	0440	35	3040	7.9	21.5	526	284	130	49	440	8.3	5.9
31...	0345	36	3050	7.9	23.5	514	268	122	51	475	9.1	4.8
APR												
07...	0430	36	3090	7.9	22.0	489	247	112	51	475	9.3	6.5
14...	0315	26	3050	8.0	22.0	516	268	121	52	475	9.1	6.4
21...	0410	40	3010	8.0	25.5	534	292	130	51	430	8.1	5.9
28...	0415	40	3000	8.1	21.0	514	272	120	52	445	8.5	5.7
MAY												
05...	0445	32	2650	8.0	22.0	397	156	90	42	400	8.7	6.1
12...	0400	26	3010	7.8	20.5	535	294	125	54	450	8.5	5.8
19...	0250	25	3090	7.9	23.0	527	281	125	52	450	8.5	6.8
26...	0220	24	3020	7.9	22.0	527	289	125	52	460	8.7	6.1
JUN												
02...	0255	33	3040	7.9	22.0	549	303	134	52	465	8.6	6.9
09...	0435	32	3080	7.8	23.0	566	322	136	55	430	7.9	6.9
16...	0230	24	3120	7.8	21.5	547	301	130	54	450	8.4	7.8
23...	0345	34	--	--	--	471	235	113	46	430	8.6	6.8
30...	0420	25	3050	7.8	--	565	325	134	56	480	8.8	6.2
JUL												
07...	0235	41	3030	7.8	21.5	527	286	125	52	450	8.5	6.8
14...	0350	34	2720	7.8	27.0	472	240	115	45	420	8.4	5.7
24...	0255	36	3040	7.9	22.0	535	289	135	48	440	8.3	4.8
28...	0255	36	2700	7.8	21.5	424	188	104	40	435	9.2	6.3
AUG												
04...	0515	57	2970	7.7	29.0	447	211	100	48	450	9.3	6.8
11...	0440	52	3010	7.9	23.5	509	266	128	46	450	8.7	6.6
18...	0230	34	2720	7.8	21.0	480	250	120	44	440	8.7	6.0
25...	0415	21	2790	7.6	26.5	471	235	116	44	440	8.8	6.2
SEP												
01...	0405	35	2720	7.9	23.0	457	221	112	43	425	8.7	6.0
08...	0220	35	2700	7.8	21.0	452	216	110	43	420	8.6	7.3
15...	0405	30	2740	8.2	25.5	460	224	115	42	400	8.1	6.2
22...	0405	26	2650	8.0	22.0	436	196	107	41	420	8.8	6.2
29...	0225	33	2670	7.7	21.5	466	232	114	44	400	8.1	5.8

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529360 SOUTH GILA PUMP OUTLET CHANNEL NO. 1 NEAR YUMA, AZ--Continued

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1966-68 available from district office in Tucson, Ariz.

COOPERATION.--Daily specific conductance record furnished by, and water samples collected by, U.S. Water and Power Resources Service.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 4,260 micromhos Oct. 31, 1979; minimum observed 2,120 micromhos Sept. 18, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 4,260 micromhos Oct. 31; minimum observed, 2,120 micromhos Sept. 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)
OCT												
01...	300	0	246	430	500	1.0	24	1750	1710	2.38	.72	3.2
08...	300	0	246	450	560	.5	31	1930	1840	2.62	.27	1.2
09...	--	--	270	480	1000	.7	27	2720	2520	3.70	--	--
15...	300	0	246	460	550	.5	27	1920	1810	2.61	.56	2.5
22...	300	0	246	460	570	.9	28	1940	1860	2.64	.68	3.0
29...	310	0	254	500	570	.5	28	2610	2510	3.55	.23	1.0
NOV												
05...	294	0	241	470	550	.9	20	1918	1830	2.61	.79	3.5
12...	298	0	244	460	550	1.0	28	1940	1830	2.64	.61	2.7
19...	304	0	249	460	555	1.1	26	1850	1830	2.52	.68	3.0
26...	304	0	249	455	580	1.2	28	1940	1860	2.64	.93	4.1
DEC												
03...	300	0	246	440	580	1.2	28	1860	1830	2.53	1.1	5.0
10...	304	0	249	435	550	1.0	28	1820	1790	2.48	.86	3.8
24...	310	0	254	460	685	.6	28	2070	2040	2.82	.79	3.5
31...	312	0	256	430	630	.8	31	1940	1920	2.64	1.2	5.2
JAN												
14...	306	0	251	450	560	1.0	30	1870	1850	2.54	1.2	5.4
21...	304	0	249	440	560	.9	28	1840	1810	2.50	1.2	5.5
28...	288	0	236	460	555	.4	30	1860	1820	2.53	.56	2.5
FEB												
04...	296	0	243	465	550	1.0	29	1860	1830	2.53	.45	2.0
11...	292	0	239	465	540	1.1	31	1850	1810	2.52	.54	2.4
18...	296	0	243	460	545	1.0	32	1860	1820	2.53	.56	2.5
25...	292	0	239	450	535	1.0	31	1810	1780	2.46	1.1	5.0
MAR												
03...	296	0	243	450	530	.7	28	1800	1780	2.45	.45	2.0
10...	296	0	243	460	540	1.0	30	1830	1830	2.49	.56	2.5
17...	296	0	243	430	540	1.5	26	1800	1770	2.45	.45	2.0
31...	300	0	246	468	540	1.2	28	1850	1840	2.52	.79	3.5
APR												
07...	296	0	243	480	545	1.0	28	1870	1850	2.54	.34	1.5
14...	304	0	249	480	545	1.1	29	1860	1860	2.53	1.1	5.0
21...	296	0	243	476	540	1.1	28	1820	1810	2.48	.68	3.0
28...	296	0	243	484	530	1.2	24	1840	1810	2.50	.68	3.0
MAY												
05...	294	0	241	416	430	.5	26	1590	1560	2.16	1.2	5.4
12...	294	0	241	508	520	1.0	28	1870	1840	2.54	.23	1.0
19...	300	0	246	464	535	1.0	26	1850	1810	2.52	.79	3.5
26...	290	0	238	496	530	.8	30	1870	1850	2.54	.95	4.2
JUN												
02...	300	0	246	500	540	1.4	34	1900	1880	2.58	.79	3.5
09...	298	0	244	484	540	1.6	28	1850	1830	2.52	1.0	4.5
16...	300	0	246	452	570	1.1	27	2020	1850	2.75	1.4	6.0
23...	288	0	236	528	440	1.2	26	1770	1740	2.41	.90	4.0
30...	292	0	239	598	540	1.8	--	2000	1990	2.72	.95	4.2
JUL												
07...	294	0	241	498	550	1.0	26	1940	1860	2.64	.63	2.8
14...	284	0	233	460	470	1.1	27	1730	1690	2.35	.72	3.2
24...	300	0	246	476	540	1.2	27	1830	1820	2.49	.27	1.2
28...	288	0	236	460	455	1.3	28	1720	1670	2.34	.86	3.8
AUG												
04...	288	0	236	478	500	1.1	27	1930	1750	2.62	--	--
11...	296	0	243	510	530	1.0	26	1870	1840	2.54	--	--
18...	288	0	236	456	500	1.1	--	1750	1730	2.38	1.1	4.8
25...	288	0	236	496	460	1.0	32	1790	1740	2.43	--	--
SEP												
01...	288	0	236	492	450	.8	30	1720	1680	2.34	--	--
08...	288	0	236	460	460	1.1	27	1730	1670	2.35	--	--
15...	288	0	236	440	440	1.2	26	1760	1610	2.39	--	--
22...	292	0	239	464	440	.7	30	1710	1650	2.33	--	--
29...	286	0	235	440	440	1.2	26	1750	1610	2.38	--	--

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529360 SOUTH GILA PUMP OUTLET CHANNEL NO. 1 NEAR YUMA, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3060	2440	3080	3410	3000	3010	3010	3020	3050	3010	3000	2720
2	3050	3010	3090	3410	3010	3020	3010	3010	3050	3010	3010	2500
3	3060	3030	3080	3410	3000	3020	3010	3020	2710	3020	3000	2720
4	2700	3030	3080	---	2990	3010	2990	3020	2890	3000	3000	2720
5	3040	3040	3020	---	3010	3010	3010	2670	2910	3000	3010	2730
6	3060	3060	3080	---	3000	3010	3010	3010	3050	2920	3010	2730
7	3060	3040	3080	---	3000	3000	3020	2980	3050	3010	2980	2730
8	3060	3040	3070	3030	3010	2950	3020	3050	3050	3010	3000	2720
9	3050	3050	3070	3040	3010	3020	3000	3020	3050	3010	3010	2720
10	3050	3040	3090	3040	3010	3020	2970	3050	3070	3010	3010	2630
11	---	3040	3080	3030	3020	3020	3020	3060	3090	2730	3000	2720
12	---	3030	3290	3050	3010	3010	3030	3050	3090	2740	3010	2730
13	3030	3040	---	3050	3010	3010	3050	3050	3080	2730	2930	2740
14	3050	3030	---	3050	3020	2990	3030	3060	3080	2740	2720	2670
15	3040	3030	---	3010	3020	3000	4140	3050	3090	2720	2740	2720
16	3050	3040	---	3010	3010	3000	4150	3050	3080	2730	2730	2720
17	3070	3050	---	2980	3010	3000	4150	3060	3080	2710	2730	2730
18	3060	3090	---	2990	3010	2990	2980	3060	2890	2720	2730	2120
19	3070	3090	---	3050	3030	3000	3010	3060	2850	2730	2730	2700
20	3070	3080	---	3040	3010	2920	3020	3060	2890	2730	2730	2700
21	3060	3080	3060	3050	3020	3010	3020	3060	2690	2720	2720	2700
22	3070	3240	3430	3040	2990	3010	3010	3050	2700	2720	2720	2700
23	3060	3230	3410	3010	3000	3010	3010	3040	2740	2720	2190	2720
24	3060	3080	3400	2990	3010	3010	2960	2920	3060	2610	2780	2710
25	3060	3070	3400	2990	3000	3020	3020	3050	3030	2720	2780	2710
26	3040	3080	3400	3010	3010	3010	2990	3060	3030	2570	2720	2700
27	3050	3090	3390	3010	2990	3010	3010	3050	2930	2720	2730	2730
28	3090	3080	3130	3020	3020	3010	3020	3050	3020	2720	2750	2730
29	4160	3060	3140	3010	3010	3010	3020	3050	3010	2690	2720	2720
30	4230	3060	3150	2450	---	3020	3000	3050	3030	2720	2730	2530
31	4260	---	3140	3020	---	3010	---	3050	---	3020	2720	---
MEAN	3160	3050	3180	3040	3010	3000	3120	3030	2980	2810	2850	2680
MAX	4260	3240	3430	3410	3030	3020	4150	3060	3090	3020	3010	2740
MIN	2700	2440	3020	2450	2990	2920	2960	2670	2690	2570	2720	2120

WTR YR 1980 MEAN 2990 MAX 4260 MIN 2120

09529440 SOUTH GILA PUMP OUTLET CHANNEL NO. 4 NEAR YUMA, AZ

LOCATION.--Lat 32°42'46", long 114°35'50", in NW¼NW¼ sec.26, T.8 S., R.23 W., Yuma County, Hydrologic Unit 15030107, at gaging station, 1.5 mi (2.4 km) upstream from outlet to Colorado River, and 1.5 mi (2.4 km) east of Yuma.

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1966-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
01...	0030	4.2	4060	7.8	25.5	920	700	240	80	550	7.9	9.0
08...	0015	4.0	4280	7.9	25.0	930	700	240	80	600	8.6	8.0
15...	0425	4.0	4300	8.0	22.0	900	670	230	80	620	9.0	7.0
22...	0525	4.0	4320	7.9	25.0	930	690	240	80	620	8.9	8.0
29...	0235	5.1	4360	7.9	25.0	930	690	240	80	630	9.0	8.0
NOV												
05...	0430	5.0	4380	7.9	21.5	920	682	240	78	650	9.3	7.8
12...	0255	5.1	4370	7.7	--	887	644	220	82	650	9.5	8.0
19...	0455	4.2	8460	7.7	24.0	1950	1610	960	195	1090	8.4	12
DEC												
03...	0005	4.2	8500	7.4	23.5	1880	1540	448	185	1090	11	11
10...	0500	4.4	8420	7.7	23.5	1760	1430	425	175	1050	11	12
17...	0425	4.4	8400	7.4	16.5	1950	1610	450	202	1090	11	13
24...	0030	4.0	8420	7.4	23.5	1955	1614	445	205	1090	11	12
26...	0340	4.2	8480	7.6	20.0	2050	1730	470	212	1080	10	12
31...	0350	4.0	8220	7.4	23.5	1919	1547	315	275	1100	11	12
JAN												
07...	0415	4.2	5300	7.7	19.0	1280	1030	265	150	660	8.0	8.5
14...	0020	9.5	5580	7.9	23.0	1110	786	265	108	810	11	9.8
21...	0410	9.5	5560	7.6	23.5	1100	784	250	115	790	10	10
28...	0440	9.2	5570	7.6	23.5	1110	794	255	115	780	10	8.8
FEB												
04...	0010	8.3	5560	7.5	23.0	1070	758	265	100	810	11	8.5
11...	0245	11	5110	7.5	23.0	1020	739	244	100	710	9.7	8.0
18...	0430	12	5130	7.8	22.0	1060	767	250	105	700	9.4	8.8
25...	0500	11	5130	7.6	23.5	1070	783	265	100	700	9.3	8.5
MAR												
03...	0040	11	5210	7.7	21.0	1110	816	270	105	710	9.3	7.4
10...	0410	12	5270	7.8	23.0	1110	815	258	114	715	9.3	10
17...	0045	8.3	5690	7.8	22.0	1080	757	250	110	760	10	9.2
24...	0055	8.3	5680	8.1	22.0	1140	812	285	105	790	10	7.8
31...	0400	8.3	5660	7.7	24.0	1160	832	280	112	830	11	8.0
APR												
07...	0500	8.3	5620	7.7	23.0	1035	710	230	112	810	11	10
14...	0030	8.3	5690	7.8	23.5	1120	798	265	112	815	11	9.8
21...	0420	8.5	4940	7.9	25.5	976	678	231	97	700	9.8	9.0
28...	0445	8.5	5600	7.9	23.5	1080	761	250	112	810	11	9.2
MAY												
05...	0145	8.5	5560	7.8	22.0	1110	782	260	112	760	9.9	9.5
12...	0415	8.5	5590	7.8	21.5	1190	866	275	123	720	9.1	10
19...	0020	8.5	5680	7.7	23.5	1160	832	265	120	800	10	10
26...	0030	8.5	5570	7.9	22.0	1170	850	265	124	770	9.8	9.0
JUN												
02...	1235	8.5	5650	7.6	22.0	1260	936	305	122	765	9.4	9.8
09...	0040	8.5	5660	7.7	23.5	1210	889	280	123	770	9.7	9.7
16...	0245	8.5	5660	7.6	21.5	1170	846	276	117	770	9.8	10
23...	0400	8.5	5530	8.0	26.5	1210	884	288	120	755	9.4	10
30...	0020	8.5	5680	7.6	22.0	1110	786	277	101	810	11	10
JUL												
07...	0045	8.5	5650	7.5	23.0	1140	816	272	112	810	10	10
21...	0435	13	6250	7.7	23.5	1340	1010	300	144	850	10	10
28...	0025	13	6270	7.6	21.5	1340	1000	311	136	885	11	10
AUG												
04...	0500	13	6310	7.6	--	1350	1010	321	132	820	9.7	10
11...	0020	13	6340	7.8	23.0	1340	1010	333	123	830	9.9	10
18...	0035	13	6310	7.5	21.0	1370	1030	332	132	820	9.6	10
25...	0430	13	6280	7.5	28.0	1350	1010	323	132	840	9.9	12
SEP												
01...	0040	13	6430	7.7	23.0	1330	996	308	137	850	10	11
08...	0020	13	6340	7.5	22.0	1370	1030	318	139	845	9.9	12
15...	0420	12	6400	8.0	26.0	1370	1030	329	132	850	10	11
22...	0420	12	6350	7.8	23.5	1380	1040	330	134	840	9.9	11
29...	0035	21	6270	7.4	21.0	1380	1040	327	137	850	10	10

09529440 SOUTH GILA PUMP OUTLET CHANNEL NO. 4 NEAR YUMA, AZ--Continued

COOPLRATION.--Water samples collected by U. S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 8,700 micromhos Nov. 23, 1979; minimum observed, 3,800 micromhos July 3, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum observed, 6,820 micromhos Apr. 10; minimum observed, 3,800 micromhos July 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)
OCT												
01...	270	0	221	770	780	.5	22	2620	2580	3.56	.38	1.7
08...	280	0	230	860	800	.8	28	2940	2750	4.00	.38	1.7
15...	290	0	238	860	820	.5	27	2790	2790	3.79	.54	2.4
22...	270	0	221	830	820	.5	27	2790	2770	3.79	.54	2.4
29...	290	0	238	840	840	.4	28	2820	2810	3.84	.54	2.4
NOV												
05...	290	0	238	835	850	.5	22	2800	2830	3.81	1.1	5.0
12...	296	0	243	860	410	.9	26	3000	2820	4.08	.70	3.1
19...	420	0	344	680	2320	.4	28	5480	4990	7.45	.18	.80
DEC												
03...	416	0	341	680	2320	.3	30	5020	4970	6.83	.34	1.5
10...	424	0	348	680	2140	.5	30	5050	4720	6.87	2.0	9.0
17...	416	0	341	680	2300	.3	31	5020	4970	6.83	.23	1.0
24...	416	0	341	690	2300	.3	30	5030	4980	6.84	.34	1.5
26...	392	0	322	700	2360	.4	28	5510	5060	7.49	.20	.90
31...	456	0	374	670	2260	.2	33	4930	4890	6.70	.47	2.1
JAN												
07...	310	0	254	520	1320	.7	20	3180	3100	4.32	.47	2.1
14...	384	0	315	720	1320	.7	27	3460	3450	4.71	.27	1.2
21...	386	0	317	550	1340	.1	26	3340	3270	4.54	.36	1.6
28...	386	0	317	550	1350	.4	31	3340	3290	4.54	2.0	9.0
FEB												
04...	384	0	315	550	1360	.6	26	3340	3310	4.54	.27	1.2
11...	344	0	282	640	1160	.5	36	3090	3070	4.20	.23	1.0
18...	352	0	289	620	1180	.3	22	3180	3060	4.32	.36	1.6
25...	352	0	289	620	1180	.5	29	3120	3080	4.24	.14	.60
MAR												
03...	358	0	294	635	1190	.4	29	3150	3120	4.28	.25	1.1
10...	360	0	295	645	1180	.6	30	3160	3130	4.30	.27	1.2
17...	392	0	322	550	1340	.6	28	3300	3240	4.49	.02	.10
24...	400	0	328	576	1340	.6	28	3360	3330	4.57	.68	3.0
31...	400	0	328	566	1340	.6	28	3390	3360	4.61	.50	2.2
APR												
07...	396	0	325	496	1320	.6	28	3250	3200	4.42	.00	.00
14...	396	0	325	550	1340	.7	24	3340	3310	4.54	.14	.60
21...	364	0	299	500	1180	.7	28	2980	2920	4.05	.14	.60
28...	396	0	325	576	1320	.6	26	3410	3300	4.64	.20	.90
MAY												
05...	400	0	328	540	1330	.6	28	3290	3240	4.47	.05	.20
12...	396	0	325	574	1320	.4	28	3280	3250	4.46	.02	.10
19...	400	0	328	570	1340	.5	29	3360	3330	4.57	.05	.20
26...	390	0	320	590	1320	.5	30	3340	3300	4.54	.00	.00
JUN												
02...	396	0	325	610	1340	3.2	29	3390	3380	4.61	.23	1.0
09...	392	0	322	620	1360	.7	28	3390	3380	4.61	.14	.60
16...	396	0	325	636	1340	.7	28	3400	3370	4.62	.07	.30
23...	398	0	326	628	1320	.4	28	3380	3350	4.60	.16	.70
30...	396	0	325	592	1310	.6	26	3380	3320	4.60	.16	.70
JUL												
07...	396	0	325	600	1340	.5	28	3430	3370	4.66	.23	1.0
21...	404	0	331	616	1540	.6	29	3790	3690	5.15	.09	.40
28...	408	0	335	628	1540	.6	28	3770	3740	5.13	.09	.40
AUG												
04...	412	0	338	618	1540	.6	28	3980	3670	5.41	--	--
11...	408	0	335	608	1520	.5	29	3870	3660	5.26	--	--
18...	412	0	338	616	1560	.6	28	4070	3700	5.54	.09	.40
25...	414	0	340	648	1550	.5	32	4060	3740	5.52	--	--
SEP												
01...	408	0	335	648	1580	.4	32	3980	3770	5.41	--	--
08...	420	0	344	652	1560	.6	29	4090	3760	5.56	--	--
15...	420	0	344	648	1560	.6	28	4130	3770	5.62	--	--
22...	420	0	344	644	1540	.5	30	4100	3740	5.58	--	--
29...	418	0	343	640	1560	.5	29	4020	3760	5.47	--	--

095294400 SOUTH GILA PUMP OUTLET CHANNEL NO. 4 NEAR YUMA, AZ--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
UNCF-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4210	4440	8670	8550	5670	4980	5620	5600	5630	5640	6400	6450
2	4290	4450	8660	8560	5660	5250	5610	5630	5630	5640	6420	6450
3	4330	4430	8590	8480	5650	5220	5600	5640	5680	5650	6380	6460
4	4350	4440	8630	8250	5680	5220	5620	5660	5690	5650	6410	6460
5	4340	4430	8630	8540	5690	5230	5620	5640	5640	5650	6430	6490
6	4350	4440	8390	7770	5170	5250	5610	5640	5650	5630	6420	6450
7	4360	4440	8400	5420	5190	5140	5630	5620	5650	5620	6430	6450
8	4370	4440	8600	5190	5160	5240	5630	5620	5640	5650	6450	6450
9	4360	4460	8600	5250	5240	5230	5640	5600	5640	5640	6360	6460
10	4390	4420	8600	5360	5210	5240	5630	5620	5630	5650	6450	6470
11	4190	4440	8630	5450	5170	5230	5630	5620	5640	5650	6380	6370
12	4340	4430	8620	5520	5200	5220	5610	5620	5630	5640	6440	6370
13	4400	4440	8600	5560	5190	5650	5640	5620	5630	5640	6450	6470
14	4400	4450	8560	5580	5220	5640	5630	5630	5620	5640	6440	6420
15	4410	7280	8590	5590	5220	5660	5570	5630	5630	5620	6480	6470
16	4420	7890	8620	5570	5220	5640	5640	5620	5620	6280	6450	6440
17	4420	8500	8530	5590	5220	5630	5620	5630	5620	6220	6470	6460
18	4430	8600	8600	5600	5230	5650	5630	5640	5610	6300	6420	6440
19	4430	8590	8170	5590	5220	5630	5640	5640	5620	6340	6470	6450
20	4420	8620	8140	5600	5220	5630	5520	5640	5610	6350	6440	6450
21	4430	8620	8180	5560	5200	5640	4950	5620	5610	6340	6460	5960
22	4410	8670	8640	5650	5230	5610	---	5620	5610	6370	6450	6470
23	4420	8700	8560	5610	5230	5600	5610	5640	5620	6380	6460	5740
24	4450	8660	8590	5640	5220	5620	5610	5630	5620	6350	6440	5720
25	4400	8690	8560	5620	5230	5630	5620	5640	5610	6360	6380	6450
26	4400	8640	8590	5640	5230	5620	5630	5630	5630	6370	6460	6470
27	4430	8660	8590	5650	5240	5610	5630	5630	5620	6380	6460	5720
28	4440	8660	8610	5670	5240	5620	5630	5640	5650	6370	6480	5760
29	4430	8690	8520	5640	5240	5600	5630	5630	5650	6390	6440	6440
30	4430	8650	8540	5650	---	5610	5620	5620	5630	6400	6430	6450
31	4430	---	8510	5650	---	5620	---	5630	---	6420	6440	---
MEAN	4380	6610	8540	6100	5290	5460	5600	5630	5630	6010	6440	6340
MAX	4450	8700	8670	8560	5690	5660	5640	5660	5690	6420	6480	6490
MIN	4190	4420	8140	5190	5160	4980	4950	5600	5610	5620	6360	5720

WTR YR 1980 MEAN 6010 MAX 8700 MIN 4190

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09530000 RESERVATION MAIN DRAIN NO. 4 AT YUMA, AZ

LOCATION.--Lat 32°44'09", long 114°37'16", in NW¼SE¼ sec.26, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, at gaging station, at railroad culvert, 0.2 mi (0.3 km) upstream from crossing of U.S. Highway 80, and 0.7 mi (1.1 km) north of Yuma.

PERIOD OF RECORD.--October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT 22...	1145	50	1950	7.8	19.5	560	330	150	45	210	3.9	5.9
NOV 26...	1040	58	1980	7.6	17.0	480	280	120	43	210	4.2	7.0
DEC 17...	1030	44	1990	7.6	18.0	510	220	130	46	230	4.4	5.8
JAN 28...	0930	44	2000	7.7	18.5	560	350	150	46	210	3.8	5.7
FEB 25...	1300	42	2020	7.9	19.5	530	310	140	43	210	4.0	5.1
MAR 24...	1140	75	1800	7.7	19.5	500	310	130	42	190	3.7	5.8
APR 21...	0815	45	2040	7.6	23.0	610	400	160	50	240	4.2	6.7
MAY 27...	1340	62	1980	7.7	22.0	580	370	150	49	230	4.2	5.6
JUN 23...	1445	74	2040	7.6	26.0	600	370	160	49	220	3.9	6.0
JUL 22...	1005	87	2020	7.6	26.0	560	330	150	46	220	4.0	6.0
AUG 25...	1250	66	1990	7.5	26.0	550	340	140	48	230	4.3	6.4
SEP 22...	1305	53	1990	7.6	22.5	510	290	130	46	220	4.2	6.8

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 22...	230	490	230	.5	21	1340	1290	1.82	.36	240	<10
NOV 26...	200	450	200	.6	16	1210	1170	1.65	.27	280	<10
DEC 17...	220	490	240	.3	24	1320	1170	1.80	.29	230	<10
JAN 28...	130	510	250	.4	22	--	1320	1.80	.42	260	<10
FEB 25...	220	500	240	.5	20	--	1290	1.75	.35	260	120
MAR 24...	190	440	190	.6	20	--	1130	1.54	.33	240	10
APR 21...	210	430	220	.5	23	--	1260	1.71	.41	270	200
MAY 27...	210	480	230	.4	22	--	1290	1.75	.25	260	140
JUN 23...	230	510	250	.5	20	1390	1360	1.89	.31	280	20
JUL 22...	230	470	230	.5	22	1380	1280	1.88	.31	160	<10
AUG 25...	210	520	240	.5	22	--	1340	1.82	.38	280	<10
SEP 22...	220	470	240	.5	22	1220	1270	1.66	.40	290	<10

< Actual value is known to be less than value shown.

09530200 YUMA MESA OUTLET DRAIN AT YUMA, AZ

LOCATION.--Lat 32°43'48", long 114°39'27", in SE¼SW¼ sec.28, T.16 S., R.22 E., San Bernardino meridian, in Arizona, Yuma County, Hydrologic Unit 15030107, at gaging station, 0.3 mi (0.5 km) from outlet to Colorado River, and 0.5 mi (0.8 km) west of Joe Henry Memorial Park in Yuma, Ariz.

PERIOD OF RECORD.--July 1972 to current year.

COOPERATION.--Water samples collected by International Boundary and Water Commission (U.S. section).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT 01...	0840	34	2090	8.0	26.0	370	170	99	29	330	7.5	5.6
NOV 05...	0810	34	2130	8.0	26.0	360	180	100	31	350	7.4	5.5
DEC 04...	0810	40	2130	7.5	--	390	190	100	33	350	7.8	5.8
JAN 07...	0810	39	2040	8.0	22.4	380	160	100	31	330	7.4	5.7
FEB 04...	0830	38	2130	7.4	--	360	190	100	32	350	7.4	5.5
MAR 03...	0830	37	2150	7.9	26.0	370	180	96	32	330	7.5	6.0
APR 07...	0920	34	2140	8.0	26.0	360	190	100	31	350	7.4	5.6
MAY 05...	0920	14	2160	7.8	--	410	220	110	32	310	6.7	5.6
JUN 02...	0920	24	2210	7.9	26.7	370	180	100	30	310	7.0	5.2
JUL 07...	0930	19	2220	7.7	--	370	180	100	30	340	7.7	5.6
AUG 04...	0945	19	2100	7.6	--	370	170	100	30	310	7.0	5.3
SEP 03...	0900	32	2150	7.6	--	370	260	100	30	320	7.2	6.9

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 01...	200	490	290	1.2	26	1360	1400	1.85	1.1	510	10
NOV 05...	200	460	300	.8	25	1310	1380	1.78	1.1	500	10
DEC 04...	200	460	300	.8	27	1360	1400	1.85	1.2	500	<10
JAN 07...	220	440	310	.8	28	--	1380	1.88	1.1	500	20
FEB 04...	190	440	310	.8	28	--	1370	1.86	1.1	490	10
MAR 03...	190	430	310	.8	31	--	1360	1.85	1.1	480	‡750
APR 07...	190	410	300	.8	24	--	1320	1.80	1.0	500	50
MAY 05...	190	420	320	.9	25	--	1340	1.82	.99	490	30
JUN 02...	190	420	330	.7	25	--	1340	1.82	.33	490	30
JUL 07...	190	430	330	1.6	24	1390	1380	1.89	.31	460	<10
AUG 04...	200	390	320	.7	17	1350	1300	1.84	.41	520	30
SEP 03...	110	430	330	.8	18	1280	1310	1.74	1.3	540	10

< Actual value is known to be less than value shown.
‡ Questionable value, not verified.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09530500 DRAIN 8-B NEAR YUMA, AZ

LOCATION.--Lat 32°44'39", long 114°41'45", in NE¼NW¼ sec.30, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, Hydrologic Unit 15030107, 0.5 mi (0.8 km) upstream from outlet to Colorado River, and 4 mi (6 km) west of Yuma.

PERIOD OF RECORD.--October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
22...	0900	5.3	1480	7.8	18.0	350	130	87	32	180	4.2	5.2
NOV												
26...	1120	1.3	1500	7.6	17.0	340	170	87	30	190	4.5	5.5
DEC												
17...	1300	2.9	1480	7.7	21.0	370	200	100	30	180	4.1	4.7
JAN												
28...	1045	2.8	1500	7.8	20.5	360	190	93	31	180	4.1	4.5
FEB												
25...	1015	2.4	1510	7.9	20.0	350	230	90	30	170	4.0	‡.0
MAR												
24...	1015	4.7	1590	7.9	17.0	390	220	100	33	190	4.2	4.9
APR												
21...	1120	2.7	1690	7.8	22.0	410	230	100	38	210	4.5	5.2
MAY												
27...	1130	6.0	1630	7.3	27.0	400	230	100	37	210	4.6	4.9
JUN												
23...	1425	6.4	1670	7.6	28.5	380	200	97	33	200	4.5	5.5
JUL												
22...	1030	6.7	1980	7.6	27.0	440	230	110	39	250	5.2	6.4
SEP												
22...	1320	7.9	1830	7.6	25.5	410	220	100	38	230	5.0	6.7

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
22...	220	380	150	.5	21	992	989	1.35	.26	200	<10
NOV											
26...	170	390	150	.4	22	962	978	1.31	.19	200	<10
DEC											
17...	170	380	150	.4	24	978	973	1.33	.29	180	<10
JAN											
28...	170	370	160	.4	22	1000	964	1.36	.25	190	<10
FEB											
25...	120	380	160	.8	22	999	926	1.36	.25	190	30
MAR											
24...	170	400	160	.4	22	1050	1010	1.43	.32	340	10
APR											
21...	180	420	180	.6	24	1130	1090	1.54	.34	250	<10
MAY											
27...	170	420	180	.4	23	1020	1080	1.39	.27	220	220
JUN											
23...	180	410	180	.5	21	1090	1060	1.48	.22	260	<10
JUL											
22...	210	490	210	.6	23	1330	1260	1.81	.64	260	<10
SEP											
22...	190	450	210	.6	23	999	1180	1.36	.51	290	<10

< Actual value is known to be less than value shown.

‡ Questionable value, not verified.

09534000 MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, AZ

LOCATION.--Lat 32°29'17", long 114°47'16", in SE¼NE¼ sec.11, T.11 S., R.25 W., Yuma County, Hydrologic Unit 15030108, at gaging station at pumping plant, 0.1 mi (0.2 km) upstream from international boundary, and 0.4 mi (0.6 km) west of San Luis.

PERIOD OF RECORD.--October 1968 to current year.

REMARKS.--Unpublished chemical analyses (continuing record) from October 1961 to September 1968 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT										
16...	1100	132	2800	7.8	29.5	23.0	7.2	480	600	370
NOV										
14...	1420	135	2500	7.6	22.0	18.0	9.7	--	560	330
DEC										
11...	1100	80	2600	7.8	20.0	17.0	9.0	270	560	330
JAN										
08...	1400	83	2420	8.1	23.5	17.5	10.2	170	590	360
FEB										
12...	1300	80	2750	8.1	18.0	17.0	9.2	250	590	360
MAR										
11...	1330	77	2580	7.8	23.5	20.5	7.7	--	590	360
APR										
07...	1130	78	2650	7.7	23.0	23.0	--	730	580	350
MAY										
12...	1415	149	2700	7.9	--	23.0	--	440	620	390
JUN										
10...	1130	127	2900	7.6	37.0	26.0	7.4	1230	600	370
JUL										
09...	1200	120	2200	7.9	41.0	29.0	6.8	730	590	370
AUG										
13...	1300	170	2580	8.0	43.5	30.0	7.2	510	590	360
SEP										
10...	1350	184	2340	7.6	34.5	27.5	8.1	280	550	330

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT										
16...	140	60	330	5.9	6.9	230	540	370	.5	24
NOV										
14...	140	52	310	5.7	7.1	230	500	350	.5	23
DEC										
11...	140	50	330	6.1	6.3	230	520	380	.5	32
JAN										
08...	150	52	320	5.7	6.0	230	490	350	.5	23
FEB										
12...	150	53	330	5.9	5.9	230	550	370	.5	25
MAR										
11...	150	53	320	5.7	6.6	230	520	370	.5	22
APR										
07...	140	57	340	6.1	6.8	230	530	410	.5	22
MAY										
12...	160	54	320	5.6	6.7	230	540	380	.5	25
JUN										
10...	150	54	320	5.7	6.7	230	520	380	.6	21
JUL										
09...	150	53	310	5.5	7.4	220	510	390	.4	‡ .1
AUG										
13...	150	53	330	5.9	9.3	230	490	370	.5	16
SEP										
10...	140	49	290	5.4	7.1	220	480	340	.6	15

‡ Questionable value, not verified.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09534000 MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT										
16...	1650	1610	2.22	.68	.70	1.4	6.4	.080	.25	.05
NOV										
14...	--	1520	2.07	.65	.54	1.2	5.3	.050	.15	.03
DEC										
11...	--	1600	2.18	.63	.87	1.5	6.5	.090	.28	.01
JAN										
08...	1560	1530	2.12	.56	.94	1.6	6.9	.080	.25	.04
FEB										
12...	1650	1630	2.24	.72	--	--	--	--	--	.04
MAR										
11...	--	1580	2.15	.68	.90	1.6	7.0	.030	.09	.04
APR										
07...	--	1650	2.24	.48	.66	1.1	5.0	.140	.43	.02
MAY										
12...	--	1630	2.22	.47	.76	1.3	5.6	.120	.37	.01
JUN										
10...	--	1590	2.16	.51	.72	1.2	5.4	.070	.21	.03
JUL										
09...	--	1560	2.12	.56	.79	1.3	5.8	.120	.37	.03
AUG										
13...	--	1560	2.12	.58	.59	1.2	5.2	.190	.58	.02
SEP										
10...	--	1460	1.99	.45	.83	1.3	5.9	.130	.40	.06

DATE	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT										
16...	.15	3	200	410	400	1	10	5	1300	30
NOV										
14...	.09	2	500	410	360	2	0	0	810	10
DEC										
11...	.03	2	400	420	390	0	0	5	1100	50
JAN										
08...	.12	3	200	460	360	0	10	0	820	30
FEB										
12...	.12	3	<100	430	400	0	10	4	690	10
MAR										
11...	.12	4	200	470	470	0	0	6	<10	20
APR										
07...	.06	3	200	480	430	1	10	2	1900	<10
MAY										
12...	.03	3	200	410	390	0	0	6	1100	60
JUN										
10...	.09	3	100	450	370	0	0	4	1000	200
JUL										
09...	.09	4	100	440	350	0	10	6	910	20
AUG										
13...	.06	4	100	490	440	0	0	8	1800	20
SEP										
10...	.18	4	100	360	270	0	10	7	1600	30

< Actual value is known to be less than value shown.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09534000 MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, AZ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)
OCT										
16...	2	210	10	.1	1	0	10	3.3	--	2
NOV										
14...	3	130	20	.0	1	0	10	16	.00	0
DEC										
11...	2	180	<10	.1	1	0	10	23	.00	0
JAN										
08...	2	160	10	.1	1	0	20	10	.00	0
FEB										
12...	8	150	20	.0	1	0	50	5.1	.00	0
MAR										
11...	4	20	20	.0	1	1	30	--	.01	1
APR										
07...	4	380	30	.0	1	0	50	6.1	.00	0
MAY										
12...	4	280	50	.1	1	0	50	2.9	.00	0
JUN										
10...	3	190	60	.0	1	0	‡960	3.9	.00	1
JUL										
09...	3	180	20	.0	1	0	20	8.1	.00	0
AUG										
13...	4	340	20	.0	1	0	60	7.2	.00	0
SEP										
10...	5	300	20	.0	1	0	50	5.0	.01	1

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
NOV									
14...	1420	.00	.0	.00	.00	.00	.00	.00	+.01

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
NOV									
14...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	PCB, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV									
14...	.00	.00	.00	.0	0	.00	1.5	.00	.00

< Actual value is known to be less than value shown.
‡ Questionable value, not verified.
+ Value verified.

SAN SIMON WASH BASIN

09535100 SAN SIMON WASH NEAR PISINIMO, AZ

LOCATION.--Lat 32°02'42", long 112°22'12", in SE¼ sec.9, T.16 S., R.1 W. (unsurveyed), Pima County, Hydrologic Unit 15080101, in Papago Indian Reservation, in center of channel between two culverts at upstream side of road, just upstream from Gu Vo Wash, and 3.2 mi (5.1 km) west of Pisinimo.

DRAINAGE AREA.--About 600 mi^2 (about 1,600 km^2).

PERIOD OF RECORD.--February 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,830 ft (558 m), from topographic map. Auxiliary crest-stage gage 40 ft (12 m) downstream, to measure head through culverts. Since July 20, 1979, supplementary gage with water-stage recorder 75 ft (23 m) downstream on right bank. All gages are set to the same datum.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--8 years, 3.82 ft^3/s (0.108 m^3/s) 2,770 acre-ft/yr (3.42 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft^3/s (354 m^3/s) Sept. 24, 1976, gage height, 10.82 ft (3.298 m), from rating curve extended above 1,700 ft^3/s (48 m^3/s) on basis of slope-area measurement of peak flow; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 101 ft^3/s (2.86 m^3/s) Aug. 13, 1915 hours, gage height, 3.72 ft (1.13 m), no peak above base of 500 ft^3/s (14 m^3/s); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.63	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.31	.00
13	.00	.00	.00	.00	.07	.00	.00	.00	.00	.00	16	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.55	.00
15	.00	.00	.00	.00	.58	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.83	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	24	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	1.9	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.54	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.36	.00	.00
26	.00	.00	.00	.00	.00	.18	.00	.00	.00	.13	.00	.00
27	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	27.44	.19	.00	.00	.00	1.08	17.67	.00
MEAN	.000	.000	.000	.000	.95	.006	.000	.000	.000	.035	.57	.000
MAX	.00	.00	.00	.00	24	.18	.00	.00	.00	.54	16	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	54	.4	.00	.00	.00	2.1	35	.00

CAL YR 1979 TOTAL 384.82 MEAN 1.05 MAX 208 MIN .00 AC-FT 763
WTR YR 1980 TOTAL 46.38 MEAN .13 MAX 24 MIN .00 AC-FT 92

SAN SIMON WASH BASIN

09535300 VAMORI WASH AT KOM VO, AZ

LOCATION.--Lat 31°57'04", long 112°20'50", in NW¼ sec.14, T.17 S., R.1 W (unsurveyed), Pima County, Hydrologic Unit 15080101, in Papago Indian Reservation, on right bank 200 ft (61 m) downstream from road crossing, 0.6 mi (1.0 km) south of Kom Vo (Santa Cruz Village) and 5 mi (8 km) upstream from mouth.

DRAINAGE AREA.--1,250 mi^2 (3,240 km^2), approximately, of which about 250 mi^2 (650 km^2) is in Mexico.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,770 ft (539 m), from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--8 years, 8.30 ft^3/s (0.235 m^3/s), 6,010 acre-ft/yr (7.41 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft^3/s (53.2 m^3/s) Oct. 20, 1972, gage height, 9.44 ft (2.877 m), from rating curve extended above 630 ft^3/s (18 m^3/s); no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 469 ft^3/s (13.3 m^3/s) Aug. 15, about 1000 hours, gage height, 7.18 ft (2.188 m), no peak above base of 500 ft^3/s (14 m^3/s); no flow for most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	80	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	100	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	53	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.3	.85
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	25	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	100	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.0	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	40	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	57	.00
15	.00	.00	.00	.00	.20	.00	.00	.00	.00	.00	300	.00
16	.00	.00	.00	.00	18	.00	.00	.00	.00	.00	78	.00
17	.00	.00	.00	.00	51	.00	.00	.00	.00	.00	20	.00
18	.00	.00	.00	.00	18	.00	.00	.00	.00	.00	2.0	.00
19	.00	.00	.00	.00	1.9	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	23	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	32	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.95	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.5	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.4	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	5.2	.00	---
TOTAL	.00	.00	.00	.00	89.10	.00	.00	.00	.00	67.12	839.30	.85
MEAN	.000	.000	.000	.000	3.07	.000	.000	.000	.000	2.17	27.1	.028
MAX	.00	.00	.00	.00	51	.00	.00	.00	.00	32	300	.85
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	177	.00	.00	.00	.00	133	1660	1.7

CAL YR 1979 TOTAL 1784.20 MEAN 4.89 MAX 234 MIN .00 AC-FT 3540
WTR YR 1980 TOTAL 996.37 MEAN 2.72 MAX 300 MIN .00 AC-FT 1980

RIO SONOYTA BASIN

SAN SIMON WASH BASIN

09535300 VAMORI WASH AT KOM VO, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-ME (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUL 22...	0330	82	260	7.2	--	1500	--	--	--	97	0	30
AUG 15...	1325	458	182	7.2	29.0	1900	6.4	12000	11800	61	0	18

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
JUL 22...	5.4	12	.5	14	120	4.0	4.1	.8	16	186	167	.25
AUG 15...	3.9	8.9	.5	12	74	2.3	2.3	.2	8.8	132	103	.18

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)
JUL 22...	1.9	--	--	--	--	--	--	--	--	--	--	--
AUG 15...	.53	.20	.10	.24	.25	1.1	.45	.00	1.2	1.1	1.7	4.6

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
JUL 22...	2.000	6.1	.390	--	--	--	--	--	--	--	--	--
AUG 15...	2.200	6.7	.210	11	4	600	0	0	0	50	0	24

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
JUL 22...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 15...	0	90	12	62000	170	73	3	2200	20	.1	.0	48

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)
JUL 22...	--	--	--	0	--	--	--	--	--	--	--	--
AUG 15...	2	0	0	0	0	10	20	2350	2910	35	19	7.1

09535300 VAMORI WASH AT KOM VO, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	JUL 24,80	AUG 15,80
TIME	1400	1525
TOTAL CELLS/ML	8700	650
DIVERSITY: DIVISION	0.1	0.0
.CLASS	0.1	0.0
..ORDER	0.4	0.0
...FAMILY	0.4	0.0
....GENUS	1.2	0.0

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)				
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS	340	4	--	-
....CHLORELLA	69	1	--	-
....CLOSTERIOPSIS	69	1	--	-
....DICTYOSPHAERIUM	1900#	22	--	-
..VOLVOCALES				
...VOLVOCACEAE				
....EUDORINA	6200#	71	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)				
.CYANOPHYCEAE				
..CHROOCOCCALES				
...CHROOCOCCACEAE				
....COCCOCHLORIS	69	1	--	-
..HORMOGONALES				
...OSCILLATORIACEAE				
....OSCILLATORIA	--	-	650#100	

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

09537500 WHITEWATER DRAW NEAR DOUGLAS, AZ

LOCATION.--Lat 31°21'08", long 109°35'04", in SW¼SE¼ sec.10, T.24 S., R.27 E., Cochise County, Hydrologic Unit 15080301, on downstream side of pier of bridge on U.S. Highway 80, 1.5 mi (2.4 km) upstream from international boundary and 2 mi (3 km) west of Douglas.

DRAINAGE AREA.--1,023 mi^2 (2,650 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1911 (gage heights and discharge measurements only), July to October 1912, January to June 1913, October 1913, December 1913 to June 1914, February to June 1915, October 1915 to September 1919, October 1919 to April 1922 (gage heights and discharge measurements only), June 1930 to December 1933, May 1935 to July 1947, October 1947 to current year. (July 1954 to March 1955 monthly discharge only.) Monthly discharge only for some periods, published in WSP 1313. Records for July to September, November 1913, July 1914 to January 1915, July to September 1915, published in WSP 359, 389, 409, and 1049 have been found to be unreliable and should not be used. Published as White River near Douglas 1911 and as White Water River near Douglas 1912.

REVISED RECORDS.--See PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 3,909.14 ft (1,191.506 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 30, 1922, nonrecording gages at various sites between 0.3 mi (0.5 km) upstream and 0.8 mi (1.3 km) downstream, at different datums. June 1, 1930, to Apr. 25, 1972, water-stage recorder at present site, at datum 2.17 ft (0.661 m) lower prior to May 14, 1938, and at datum 2.20 ft (0.671 m) lower May 14, 1938, to Apr. 25, 1972. Apr. 26, 1972, to Apr. 10, 1974, water-stage recorder at site 200 ft (61 m) upstream at datum 4.40 ft (1.341 m) higher.

REMARKS.--Records poor. Irrigation of about 40,000 acres (162 km^2) above station in 1978, by pumping from ground water. Whitewater Draw discharges into Gulf of California through Rio Yaqui in Mexico. Records show flow at international boundary except for smelter waste water, which enters stream below station.

AVERAGE DISCHARGE.--51 years (water years 1916-19, 1931-33, 1936-46, 1948-80), 9.73 ft^3/s (0.276 m^3/s), 7,050 acre-ft/yr (8.69 hm^3/yr); median of yearly mean discharges, 8.2 ft^3/s (0.23 m^3/s), 5,900 acre-ft/yr (7.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,060 ft^3/s (143 m^3/s) Aug. 7, 1955; maximum gage height, 16.55 ft (5.044 m) July 29, 1966; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 467 ft^3/s (13.2 m^3/s) Aug. 13, 1330 hours, gage height, 7.92 ft (2.414 m), no peak above base of 1,000 ft^3/s (28 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.2
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09
9	.00	.00	.00	.00	.71	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	97	.00
14	.00	.00	.00	.00	.40	.00	.00	.00	.00	.00	3.7	.00
15	.00	.00	.00	.00	.58	.00	.00	.00	.00	.00	3.6	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.7	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.4	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	1.69	.00	.00	.00	.00	.00	114.06	2.89
MEAN	.000	.000	.000	.000	.058	.000	.000	.000	.000	.000	3.68	.096
MAX	.00	.00	.00	.00	.71	.00	.00	.00	.00	.00	97	2.2
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	3.4	.00	.00	.00	.00	.00	226	5.7

CAL YR 1979 TOTAL 1626.88 MEAN 4.46 MAX 533 MIN .00 AC-FT 3230
WTR YR 1980 TOTAL 118.64 MEAN .32 MAX 97 MIN .00 AC-FT 235

SULPHUR SPRING VALLEY

WHITEWATER DRAW BASIN

09537500 WHITEWATER DRAW NEAR DOUGLAS, AZ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUL 24...	1400	1.6	304	7.6	36.0	280	5.8	1040	720	100	0	31
AUG 14...	1230	1.5	178	7.2	22.5	410	--	3200	4800	59	16	19

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
JUL 24...	5.8	11	.5	15	130	16	3.0	.5	17	179	178	.24
AUG 14...	2.7	14	.8	5.8	43	29	6.6	.3	5.3	150	112	.20

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)
JUL 24...	.14	.56	.45	.68	2.0	1.5	2.6	.70	1.9	2.7	2.0	12
AUG 14...	.63	.07	.03	.08	1.3	.87	1.4	.50	.90	2.1	1.5	9.3

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
JUL 24...	.900	2.8	.630	9	8	200	100	0	<1	10	10	6
AUG 14...	.780	2.4	.140	14	12	100	0	?	0	0	10	3

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
JUL 24...	<3	17	11	7700	90	10	6	230	20	.1	.0	11
AUG 14...	0	500	90	13000	70	59	3	310	30	.1	.0	6

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)
JUL 24...	4	0	0	0	0	40	10	--	--	23	27	1.3
AUG 14...	1	1	1	0	0	10	20	553	2.2	21	9.9	--

< Actual value is known to be less than value shown.

09537500 WHITEWATER DRAW NEAR DOUGLAS, AZ--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO AUGUST 1980

DATE	AUG 14,80
TIME	1240
TOTAL CELLS/ML	42000
DIVERSITY: DIVISION	0.0
.CLASS	0.0
..ORDER	0.0
...FAMILY	0.0
....GENUS	0.0

ORGANISM	CELLS /ML	PERCENT
CYANOPHYTA (BLUE-GREEN ALGAE)		
.CYANOPHYCEAE		
..HORMOGONALES		
...OSCILLATORIALEAE		
....LYNGBYA	22000 #	52
....OSCILLATORIA	10000 #	23

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

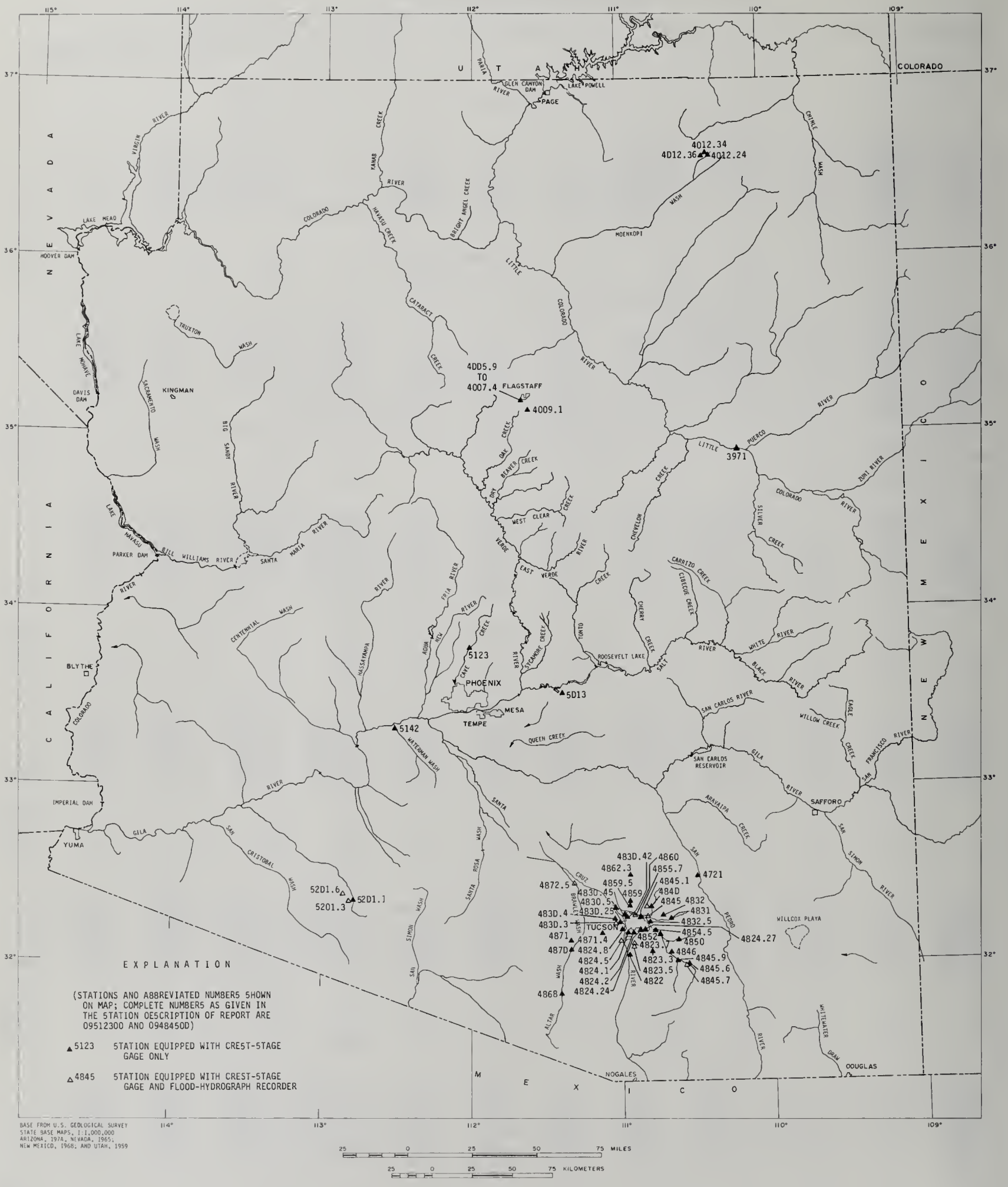

Figure 7.--Map of Arizona showing location of partial-record gaging stations.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1980

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Little Colorado River basin					
09397100	Leroux Wash near Holbrook, AZ	Lat 34°54'18", long 110°12'03", SE¼NE¼NE¼ sec.3, T.17 N., R.20 E., Navajo County, near center of bridge in east-bound lane of Interstate Highway 40, 0.5 mi (0.8 km) upstream from mouth and 2.5 mi (4.0 km) west of Holbrook.	809	1980	2-20-81	60.44	4,740
09400590	Rio de Flag at Hidden Hollow Road, at Flagstaff, AZ	Lat 35°14'31", long 111°41'02", in SW¼SW¼ sec.32, T.22 N., R.7 E., Coconino County, at Hidden Hollow Road, 1.4 mi northwest of the Museum of Northern Arizona, and 3.4 mi northwest of downtown Flagstaff.	31.6	1970-80	2-19-80	-----	a100
09400595	Schultz Canyon at Flagstaff, AZ	Lat 35°13'37", long 111°39'29", in SE¼SW¼ sec.4, T.21 N., R.7 E., Coconino County, at U.S. Highway 180, 0.6 mi south of the Museum of Northern Arizona in Flagstaff.	6.09	1970-80	3- -80	3.11	35
09400600	Rio de Flag at Flagstaff, AZ	Lat 35°13'18", long 111°39'24", in NW¼NE¼ sec.9, T.21 N., R.7 E., Coconino County, at west side of Crescent Drive in Flagstaff.	51.0	1970-80	5- -79 7- -80	7.50 7.60	b110 125
09400650	Sinclair Wash at Flagstaff, AZ	Lat 35°09'50", long 111°40'48", in NW¼NW¼ sec.32, T.21 N., R.7 E., Coconino County, at Holmes Avenue in the community of Palmerville at Flagstaff.	8.16	1970-80	2-20-80	6.41	70
09400655	Rio de Flag at Interstate 40 at Flagstaff, AZ	Lat 35°11'04", long 111°37'56", in SE¼SE¼ sec.22, T.21 N., R.7 E., Coconino County, on left bank 80 ft upstream from bridge for eastbound lanes of Interstate 40, in Flagstaff.	68.0	1973, 1976-80	2-20-80	7.65	165
09400660	Bow and Arrow Wash at Flagstaff, AZ	Lat 35°09'58", long 111°39'10", in NW¼NE¼ sec.33, T.21 N., R.7 E., Coconino County, at Zuni Road in Flagstaff.	2.14	1969-80	2-18-80	-----	a40
09400680	Switzer Canyon at Flagstaff, AZ	Lat 35°12'44", long 111°38'21", in SW¼SE¼ sec.10, T.21 N., R.7 E., Coconino County at Turquoise and Oak Streets in Flagstaff.	1.87	1969-80	2-19-80	6.02	107
09400700	Switzer Canyon tributary at Flagstaff, AZ	Lat 35°12'03", long 111°36'46", in NE¼SE¼ sec.14, T.21 N., R.7 E., Coconino County, at gravel road 500 ft upstream from Interstate 40 and 0.25 mi downstream from U.S. Highway 66 in Flagstaff.	c7.31	1968-80	8-12-79 or 8-13-79 2-19-80	4.86 4.47	b103 84
09400730	Lockett-Fanning diversion at Flagstaff, AZ	Lat 35°13'19", long 111°35'58", in NW¼NE¼ sec.12, T.21 N., R.7 E., Coconino County, at Linda Vista Drive in Flagstaff.	1.05	1969-80	1980	-----	(d)
09400740	Harenburg Wash at Flagstaff, AZ	Lat 35°13'09", long 111°35'16", in SE¼NW¼ sec.7, T.21 N., R.8 E., Coconino County, at AT&SF railroad tracks at the east edge of Flagstaff.	2.41	1969-80	2-28-78 7- -80	4.85 4.92	b54 57
		Gila River basin					
09472100	Peck Canyon tributary near Redington, AZ	Lat 32°29'12", long 110°30'00", in SW¼SW¼ sec.10, T.11 S., R.18 E., Pima County, on left bank 0.2 mi upstream from mouth and 4 mi north of Redington.	8.02	1967-72‡, 1973-80	8-11-80	7.27	51
09482200	Flato Wash near Sahuarita, AZ	Lat 32°02'43", long 110°57'00", in SW¼SE¼ sec.7, T.16 S., R.14 E., Pima County, at U.S. Highway 89, 6 mi north of Sahuarita.	e30.1 (23.4)	1965-80	8-13-80	3.09	271
09482330	Pumping Wash near Vail, AZ	Lat 32°04'10", long 110°48'23", in SW¼NW¼ sec.3, T.16 S., R.15 E., Pima County, at road to pumping station 1.1 mi south of Interstate 10, and 5.7 mi west of Vail.	.81	1966-80	8-24-80	4.28	190
09482350	South Fork Airport Wash near Tucson, AZ	Lat 32°06'00", long 110°54'30", in SE¼NE¼ sec.28, T.15 S., R.14 E., Pima County, at Hughes Access Road, 3.25 mi south of U.S. Highway 80, and 1.5 mi southeast of Tucson city limits.	f9.78 (5.40)	1966-80	9- 7-80	6.06	620

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1980--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Gila River basin--Continued					
09482570	North Fork Airport Wash near Tucson, AZ	Lat 32°06'40", long 110°54'30", in NE¼SE¼ sec.22, T.15 S., R.14 E., Pima County, at Hughes Access Road, 2.5 mi south of U.S. Highway 80, and 1 mi east of Tucson city limits.	f0.65 (1.37)	1961, 1965-80	9- 7-80	5.50	460
09482410	Rodeo Wash at Tucson, AZ	Lat 32°10'20", long 110°58'35", in SW¼NW¼ sec.36, T.14 S., R.13 E., Pima County, at South 12th Avenue, 0.8 mi above mouth in Tucson city limits.	5.92	1970-80	9- 7-80	3.94	460
09482420	Julian Wash at Tucson, AZ	Lat 32°10'15", long 110°56'25", in SW¼NW¼ sec.32, T.14 S., R.14 E., Pima County, 1,600 ft above confluence with Tucson diversion channel, and 0.5 mi south of Ajo Road in Tucson.	26.5	1970-80	9- 7-80	2.59	455
09482450	West Branch Santa Cruz River at Tucson, AZ	Lat 32°08'00", long 111°00'30", in NE¼NE¼ sec.16, T.15 S., R.13 E., Pima County, at Valencia Road, 0.4 mi east of Mission Road, and 0.8 mi west of Tucson city limits.	23.6	1966-80	9-25-80	4.34	150
09482480	Big Wash at Tucson, AZ	Lat 32°11'10", long 111°00'07", in SW¼NE¼ sec.27, T.14 S., R.13 E., Pima County, at Mission Road, 0.6 mi north of State Highway 86, in Tucson.	2.75	1966-80	9- 7-80	-----	3
09483025	Silvercroft Wash at Tucson, AZ	Lat 32°13'53", long 111°00'10", in NW¼ sec.10, T.14 S., R.13 E., Pima County, 0.1 mi west of Silverbell Road, 0.3 mi northwest of St. Mary's Hospital, and 0.4 mi north of Anklam Road at Tucson.	2.74	1969-80	8-24-80	0.65	72
09483030	Anklam Wash at Tucson, AZ	Lat 32°13'30", long 111°01'50", in SE¼ sec.8, T.14 S., R.13 E., Pima County, at Anklam Road, 1 mi west of Tucson city limits, and 2 mi west of St. Mary's Hospital.	2.11	1965-80	8-14-80	3.59	35
09483040	West Speedway Wash near Tucson, AZ	Lat 32°14'20", long 111°02'43", in SE¼SE¼ sec.6, T.14 S., R.13 E., Pima County, at driveway to power substation off West Speedway Road, 2 mi west of Tucson city limits, and 3 mi northwest of St. Mary's Hospital.	.46	1965-80	8-24-80	6.98	86
09483042	Cemetery Wash at Tucson, AZ	Lat 32°15'50", long 110°58'42", in NE¼NE¼ sec.35, T.13 S., R.13 E., Pima County, 270 ft west of U.S. Highway 89, 300 ft south of projection of Ft. Lowell Road in Tucson.	1.3	1966-80	8-14-80	2.74	225
09483045	Flowing Wells Wash at Tucson, AZ	Lat 32°15'55", long 110°59'40", in SW¼SW¼ sec.26, T.13 S., R.13 E., Pima County, at intersection of Ft. Lowell Road and Flowing Wells Road in Tucson city limits.	3.53	1971-80	2-13-80	4.22	330
09483100	Tanque Verde Creek near Tucson, AZ	Lat 32°14'48", long 110°40'46", in NE¼NW¼ sec.2, T.14 S., R.16 E., Pima County, 4.4 mi east of Tanque Verde School, 7.4 mi upstream from Agua Caliente Wash, and 17.5 mi east of Tucson city hall.	43.0	1959-74‡, 1975-80	2-14-80	3.62	1,150
09483200	Agua Caliente Wash tributary near Tucson, AZ	Lat 32°16'07", long 110°44'15", in SW¼SW¼ sec.29, T.13 S., R.16 E., Pima County, at Soldier Trail, 1.4 mi north of Tanque Verde Road, and 5 mi northeast of Tucson city limits.	2.04	1965-80	8-13-80	5.90	76
09483250	Rob Wash at Tucson, AZ	Lat 32°14'08", long 110°48'58", in NE¼NW¼ sec.9, T.14 S., R.15 E., Pima County, at Speedway Blvd. 0.4 mi east of Pantano Road, and 1 mi north of East Broadway in Tucson city limits.	2.08	1971-80	7-26-80	2.18	190
09484000	Sabino Creek near Tucson, AZ	Lat 32°19'00", long 110°48'35", in SE¼NE¼ sec.9, T.13 S., R.15 E., Pima County, 0.5 mi north of Coronado National Forest boundary, and 12 mi northeast of Tucson city hall.	35.5	1932-74‡, 1975-80	2-14-80	7.50	2,290
09484500	Tanque Verde Creek at Tucson, AZ	Lat 32°15'57", long 110°50'27", in SE¼SE¼ sec.30, T.13 S., R.15 E., Pima County, at Sabino Canyon Road, 1 mi downstream from Sabino Creek, and 1.25 mi northeast of Tucson city limits.	219	1940-45‡, 1966-80	2-14-80	3.17	1,600

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1980--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Gila River basin--Continued					
09484510	Ventana Canyon Wash near Tucson, AZ	Lat 32°18'35", long 110°50'20", in SW¼SW¼ sec.8, T.13 S., R.15 E., Pima County, at Sunrise Drive (Sabino Canyon West Road), 0.5 mi above Esperero Wash, and 4 mi northeast of Tucson city limits.	6.46	1965-80	7-13-80	6.43	32
09484560	Cienega Creek near Pantano, AZ	Lat 31°59'08", long 110°33'57", in NW¼ sec.1, T.17 S., R.17 E., Pima County, on downstream end of first pier from right abutment of bridge on Interstate 10, and 1.2 mi southeast of Pantano.	289	1968-75‡, 1976-80	9- 7-80	4.60	630
09484570	Mescal Arroyo near Pantano, AZ	Lat 31°59'25", long 110°33'52", in NE¼NW¼ sec.1, T.17 S., R.17 E., Pima County, at county road, 0.25 mi above mouth, and 1.1 mi southeast of Pantano.	38.4	1965-80	9- 7-80	2.70	15
09484590	Davidson Canyon Wash near Vail, AZ	Lat 31°59'37", long 110°38'40", in SW¼SE¼ sec.31, T.16 S., R.17 E., Pima County, on right bank 0.3 mi upstream from Interstate 10, 2.0 mi upstream from mouth, and 5.5 mi southeast of Vail.	50.5	1968-75‡, 1976-80	9- 7-80	4.26	1,740
09484600	Pantano Wash near Vail, AZ	Lat 32°02'09", long 110°40'37", in SW¼SE¼ sec.14, T.16 S., R.16 E., Pima County, 60 ft upstream from dam, 2.2 mi southeast of Vail, and 20 mi southeast of Tucson city hall.	457	1959-74‡, 1975-80	9- 7-80	6.77	1,300
09485000	Rincon Creek near Tucson, AZ	Lat 32°07'46", long 110°37'32", in NW¼NE¼ sec.17, T.15 S., R.17 E., Pima County, 9 mi upstream from mouth, and 22 mi southeast of Tucson city hall.	44.8	1952-74‡, 1975-80	2-14-80	4.81	586
09485450	Pantano Wash (at Broadway Blvd.) at Tucson, AZ	Lat 32°13'14", long 110°49'44", in NW¼NE¼ sec.17, T.14 S., R.15 E., Pima County, near right bank on downstream side of eastbound bridge on Broadway Blvd., 4.6 mi upstream from mouth, and 8.3 mi east of intersection with Stone Avenue.	599	1979-80	9- 7-80	3.18	500
09485570	Alamo Wash at Tucson, AZ	Lat 32°15'34", long 110°53'02", in SE¼SE¼NW¼ sec.35, T.13 S., R.14 E., Pima County, 600 ft downstream from Glenn Street, 0.5 mi east of the intersection of Glenn Street and Swan Road.	9.56	1979-80	8-13-80	4.71	820
09485850	Rillito Creek near Tucson, AZ	Lat 32°17'19", long 110°57'38", in SE¼NE¼ sec.24, T.13 S., R.13 E., Pima County, near center of span on downstream side of bridge on First Avenue, 4.6 mi north of Tucson city hall, and 6 mi upstream from mouth. Replaces former site (09486000) downstream from bridge on U.S. Highway 89.	892	1979-80	2-14-80	4.40	2,300
09485900	Pima Wash near Tucson, AZ	Lat 32°20'15", long 110°57'35", in SW¼SW¼ sec.31, T.12 S., R.14 E., Pima County, at Ina Road, and 4 mi north of Tucson city limits.	4.93	1964-80	9-26-80	8.0	30
09485950	Geronimo Wash near Tucson, AZ	Lat 32°19'56", long 110°56'37", in SE¼NE¼ sec.6, T.13 S., R.14 E., Pima County, at Skyline Drive, 0.4 mi southeast of Ina Road, and 3.5 mi north of Tucson city limits.	2.15	1964-80	8-13-80	5.01	65
09486230	Big Wash near Catalina, AZ	Lat 32°25'20", long 110°56'46", in NE¼NE¼ sec.6, T.12 S., R.14 E., Pima County, on right bank, 0.8 mi upstream from mouth at Canada del Oro, 0.9 mi downstream from Honey Bee Canyon, and 5.5 mi southwest of Catalina.	109	1976-80	7-19-80	10.5	11,000
09486300	Canada del Oro near Tucson, AZ	Lat 32°22'27", long 111°00'31", in SW¼NW¼ sec.22, T.12 S., R.13 E., Pima County, on right bank at upstream side of Overton Road, 4.7 mi upstream from mouth, and 10.5 north of Tucson city hall.	250	1966-78‡, 1979-80	7-19-80	5.27	4,240
09486800	Altar Wash near Three Points, AZ	Lat 31°50'10", long 111°24'11", in SE¼NE¼ sec.27, T.18 S., R.9 E., Pima County, 0.2 mi upstream from bridge on State Highway 286, and 18 mi south of Three Points.	463	1966-75‡, 1976-80	8-13-80	6.96	1,400
09487000	Brawley Wash near Three Points, AZ	Lat 32°04'39", long 111°20'08", in NW¼SW¼ sec.33, T.15 S., R.10 E., Pima County, 1,300 ft downstream from State Highway 86, 1.6 mi west of Three Points (Robles Junction), and 23 mi west of Tucson (revised).	776	1962, 1966-80	8-13-80	5.54	1,900

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1980--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Gila River basin--Continued					
09487100	Little Brawley Wash near Three Points, AZ	Lat 32°07'25", long 111°19'45", in SE¼NW¼ sec.16, T.15 S., R.10 E., Pima County, 3.4 mi north of Three Points.	11.9	1968-80	6-30-80	12.06	893
09487140	San Joaquin Wash near Tucson, AZ	Lat 32°10'07", long 111°07'58", in NE¼SE¼ sec.32, T.14 S., R.12 E., Pima County, 1.1 mi northwest of the intersection of San Joaquin Road and the Tucson-Ajo Highway.	.45	1969-80	1980	-----	(d)
09501300	Tortilla Creek at Tortilla Flat, AZ	Lat 33°31'38", long 111°23'13", in NW¼ sec.13, T.2 N., R.9 E. (unsurveyed), Maricopa County, 600 ft upstream from State Highway 88 and Tortilla Flat Store, and 3.7 mi southeast of Mormon Flat Dam.	24.3	1966-80	2-15-80	9.90	4,250
09505550	Verde River below Camp Verde, AZ	Lat 34°33'02", long 111°51'02", in SW¼NW¼ sec.5, T.13 N., R.5 E., Yavapai County, on downstream side of bridge on county highway, 0.5 mi southeast of Camp Verde, and 2.2 mi downstream from Beaver Creek.	4,670	1973-78‡, 1980	2-15-80	19.30	50,900
09513650	Agua Fria River at El Mirage, AZ	Lat 33°36'24", long 112°18'14", in NW¼NW¼ sec.18, T.3 N., R.1 E., Maricopa County, at Grand Avenue 0.75 mi southeast of El Mirage.	g 1,637	1963-80	2-20-80	10.14	41,800
09514200	Waterman Wash near Buckeye, AZ	Lat 33°19'49", long 112°30'33", in SW¼NE¼ sec.24, T.1 S., R.3 W., Maricopa County, 2.4 mi above mouth, 5.2 mi southeast of Buckeye.	403	1964-80	2-15-80	5.67	2,220
09516500	Hassayampa River near Morristown, AZ	Lat 33°53'06", long 112°39'41", in SW¼SE¼ sec.3, T.6 N., R.4 W., Maricopa County, 3.0 mi northwest of Morristown, 7 mi southeast of Wickenburg.	774	1939-47‡, 1954, 1956, 1964-80	2-20-80	14.32	17,000
09520110	Hot Shot Arroyo near Ajo, AZ	Lat 32°20'49", long 112°48'31", in SW¼ sec.29, T.12 S., R.5 W., Pima County, at State Highway 85, 3 mi southeast of Ajo.	.44	1966-80	8-13-80	4.33	40
09520130	Darby Arroyo near Ajo, AZ	Lat 32°21'19", long 112°49'31", in NW¼ sec.30, T.12 S., R.5 W., Pima County, at State Highway 85, 2 mi southeast of Ajo.	4.72	1966-80	8-13-80	6.42	150
09520160	Gibson Arroyo at Ajo, AZ	Lat 32°22'48", long 112°51'40", in NW¼SW¼ sec.14, T.12 S., R.6 W., Pima County, at Second Avenue next to railroad tracks in Ajo.	2.18	1967-80	8-13-80	1.95	70
09520170	Rio Cornez near Ajo, AZ	Lat 32°29'58", long 112°52'50", in SE¼NE¼ sec.4, T.11 S., R.6 W., Pima County, on downstream side of bridge on State Highway 85, and 8 mi north of Ajo.	243	1967-78‡, 1979-80	1980	-----	(d)

‡ Operated as a continuous-record gaging station.
a Estimate.
b Previously published discharge revised.
c Peak flows originate in 1.2 square miles of urban area at the downstream end of the basin. Little flow has come from the upper 0.1 square miles since at least 1964.
d No evidence of flow.
e Runoff from upper part of drainage area is lost through extensive sheet and interbasin flow. The noncontributing area is shown in parentheses.
f Portion of drainage basin is generally noncontributing because of a major stock pond. The noncontributing area is shown in parentheses.
g Includes 1,459 square miles above Lake Pleasant that is noncontributing except during occasional periods of spill from Waddell Dam; does not include the area tributary to McMicken Dam from which water is diverted to the Agua Fria River. Diversions from McMicken Dam have negligible effect on peak flows of the Agua Fria River.

Discharge measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*); measurements of peak flow by a dagger (†).

Discharge measurements made at miscellaneous sites during water year 1980

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Little Colorado River basin				
Little Colorado River	Colorado River	Lat 34°25'18", long 109°24'07", in NE¼SW¼ sec.20, T.12 N., R.28 E., Apache County, at road crossing 1.2 mi upstream from Salado Springs, 6.5 mi south of St. Johns.	-------	1975-79	9-25-80	1.97
Do----------	-------do-----	Lat 34°26'00", long 109°22'40", in SE¼SE¼ sec.16, T.12 N., R.28 E., Apache County, 2.0 mi downstream from Salado Springs, 5.0 mi southwest of St. Johns.	-------	1940-41, 1975-79	9-25-80	7.68
Concho Spring	Little Colorado River	Lat 34°25'51", long 109°37'45", in NW¼NE¼ sec.19, T.12 N., R.26 E., Apache County, 3 mi southwest of Concho.	-------	1942, 1946-61, 1966-68, 1976-79	4-28-80 9-22-80	0.93 2.04
		Gila River basin				
Railroad Wash	Gila River	Lat 32°40'19", long 109°04'38", in SW¼SW¼ sec.4, T.9 S., R.32 E., Greenlee County, 0.55 mi south of the store at main intersection in Franklin, 2½ mi upstream from mouth.	190	1965	9-09-80	†28,200
San Pedro River	-------do-----	Lat 32°51'47", long 110°43'38", in SE¼SE¼ sec.32, T.6 S., R.16 E., Pinal County, 1.8 mi below mouth of Aravaipa Creek.	-------	-------	6-03-80	*12.8
Ephraim Canyon Wash	Santa Cruz River	Lat 31°20'22", long 110°57'14", in NW¼NE¼SW¼ sec.18, T.24 S., R.14 E., Santa Cruz County, at upstream end of culvert on I-19, 1.8 mi above Nogales Wash at Nogales.	5.9	-------	8-13-80	†2,160
Fish Creek	Salt River	Lat 33°32'00", long 111°18'30", unsurveyed, Maricopa County, just upstream from Lewis and Pranty Creek, 4 mi southeast of Horse Mesa Dam.	32.2	1979	a12-18-78 2-15-80	†2,650 †2,450
Deadman Creek	Verde River	Lat 34°01'33", long 111°39'04", in sec.20, T.8 N., R.7 E., unsurveyed, Yavapai County, in Tonto National Forest, 4.4 mi northeast of Horseshoe Dam.	36.2	1978	2-15-80 or 2-19-80	†3,220
Lime Creek	-------do-----	Lat 33°59'11", long 111°45'03", in sec.4, T.7 N., R.6 E., unsurveyed, Maricopa County, 2.5 mi west of Horseshoe Dam, 15 mi northeast of Carefree.	41.9	1978-79	12-18-78 2-15-80 or 2-19-80	†b1,540 †7,860
Davenport Wash	-------do-----	Lat 33°59'54", long 111°38'32", in sec.32, T.8 N., R.7 E., unsurveyed, Maricopa County, 13.7 mi northwest of Sunflower.	25.5	1978	2-15-80 or 2-19-80	†2,670
Sheep Creek	-------do-----	Lat 33°55'24", long 111°38'12", in sec.28, T.7 N., R.7 E., unsurveyed, Maricopa County, 10.6 mi northwest of Sunflower.	34.2	1978-79	a12-18-78 2-15-80 or 2-19-80	†b2,500 †2,640
Agua Fria River	Gila River	Lat 34°04'23", long 112°08'06", in SE¼ sec.34, T.9 N., R.2 E., Yavapai County, 1,500 ft upstream from Interstate Highway 17 at Black Canyon City.	845	1919, 1949-57	a12-18-78	†32,100
Black Canyon Creek	Agua Fria River	Lat 34°05'52", long 112°09'08", in sec.28, T.9 N., R.2 E., unsurveyed, Yavapai County, 1,300 ft downstream from ford, 1.2 mi upstream from mouth, about 1 mi north of Black Canyon City.	238	-------	a12-18-78	†22,300
Verde River	Salt River	Lat 34°52'50", long 112°18'44", in SE¼NW¼SE¼ sec.1, T.17 N., R.1 W., Yavapai County, 0.5 mi east of Bull Basin Canyon, 10 mi east of Paulden.	-------	-------	12-08-79	25.3

a Previously published date corrected.
b Previously published figure revised.

Samples are collected at sites other than gaging stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

LITTLE COLORADO RIVER BASIN

09401239 COAL MINE WASH NEAR MOUTH NEAR SHONTO, AZ

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JAN												
16...	1600	.60	4400	--	10.0	1800	1600	320	250	270	2.7	9.8
APR												
10...	1000	>1.0	3820	7.8	6.0	1900	1700	360	240	230	2.3	8.2

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JAN											
16...	220	2000	32	.5	18	3400	3050	4.62	4.8	170	10
APR											
10...	220	1900	180	.5	17	3490	3080	>4.75	3.7	110	60

342518109240700 LITTLE COLORADO RIVER ABOVE SALADO SPRINGS NEAR ST. JOHNS, AZ
(LAT 34°25'18", LONG 109°24'07")

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
SEP												
25...	1200	1.9	2200	7.8	17.5	650	320	170	54	250	4.3	19

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP												
25...	330	420	280	2.3	16	1410	1.92	.00	.00	450	50	90

> Actual value is known to be greater than value shown.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

342600109224000 LITTLE COLORADO RIVER BELOW SALADO SPRINGS NEAR ST. JOHNS, AZ
(LAT 34°26'00", LONG 109°22'40")

LITTLE COLORADO RIVER BASIN

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
SEP 25...	1000	7.7	3000	7.4	16.0	870	510	250	60	370	5.5	30

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 25...	360	600	430	2.5	17	1980	2.69	.00	.00	330	50	70

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

GILA RIVER BASIN

335947109573000 WHITE RIVER BELOW LOWER LOG ROAD NEAR FORT APACHE, AZ
(LAT 33°59'47", LONG 109°57'30")

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUL 03...	1200	87	105	8.3	20.0	37	0	9.9	3.1	3.4	.2	1.3

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUL 03...	47	2.5	.9	.1	19	39	69	.05	.00	30	40

340211109503000 WHITE RIVER BELOW TROUT CREEK NEAR MC NARY, AZ
(LAT 34°02'11", LONG 109°50'03")

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUL 02...	1100	80	90	8.2	19.0	30	0	8.1	2.4	3.3	.3	1.3

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUL 02...	31	3.1	.9	.2	19	71	57	.10	.00	30	30

340219109500700 WHITE RIVER ABOVE TROUT CREEK NEAR MC NARY, AZ
(LAT 34°02'19", LONG 109°50'07")

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUL 01...	1000	77	80	8.0	17.0	26	0	6.8	2.2	3.0	.3	1.3

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUL 01...	28	3.7	1.2	.2	18	68	53	.09	.00	30	40

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

GILA RIVER BASIN

340240109471300 WHITE RIVER BELOW SAND CREEK NEAR MC NARY, AZ
(LAT 34°02'40", LONG 109°47'13")

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUL 01...	0800	77	60	7.6	11.0	24	0	6.5	1.9	2.9	.3	1.3

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUL 01...	26	3.9	1.0	.2	16	58	51	.08	.00	30	50

340302109492400 WILLIAMS CREEK AT MOUTH NEAR MC NARY, AZ
(LAT 34°03'02", LONG 109°49'24")

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUL 02...	0900	7.5	150	8.8	19.0	52	0	11	5.9	5.5	.3	1.5

DATE	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUL 02...	58	2.7	1.2	.6	22	109	86	.15	.12	20	20

ANALYSIS OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DIVERSIONS AND RETURN FLOWS BETWEEN DAVIS DAM AND PARKER DAM

09423640 TOPOCK MARSH NEAR OUTLET NEAR NEEDLES, CA

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE, WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT					
12...	1145	1860	--	1200	1.63
29...	1230	1880	22.0	1200	1.63
NOV					
15...	1200	1800	19.0	1170	1.59
DEC					
03...	1330	1830	9.0	1180	1.60
17...	1330	1830	12.0	1170	1.59
28...	0830	1810	9.5	1160	1.58
JAN					
15...	1330	1800	16.0	1170	1.59
FEB					
08...	1050	1770	14.0	1150	1.56
MAR					
03...	1600	1780	--	1160	1.58
18...	1230	1780	--	1100	1.50
APR					
01...	1435	1800	11.0	1160	1.58
18...	1130	1790	--	1130	1.54
MAY					
01...	1330	1800	16.0	1170	1.59
16...	1215	1840	23.0	1120	1.52
JUN					
03...	1215	1900	20.0	1230	1.67
19...	1210	1930	28.0	1260	1.71
JUL					
01...	0730	1750	--	1130	1.54
16...	1400	1960	--	1220	1.66
AUG					
01...	1315	1980	--	1270	1.73
19...	1130	1990	--	1310	1.78
SEP					
03...	1130	2030	--	1300	1.77
23...	1200	2060	--	1310	1.78

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429440 SENATOR WASH BELOW SENATOR WASH RESERVOIR, CA

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JUL 14...	0405	8.5	5600	7.6	27.0	1180	857	273	120	760	9.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)
JUL 14...	9.8	323	582	1320	.6	28	3560	3290	4.84	.14	.60

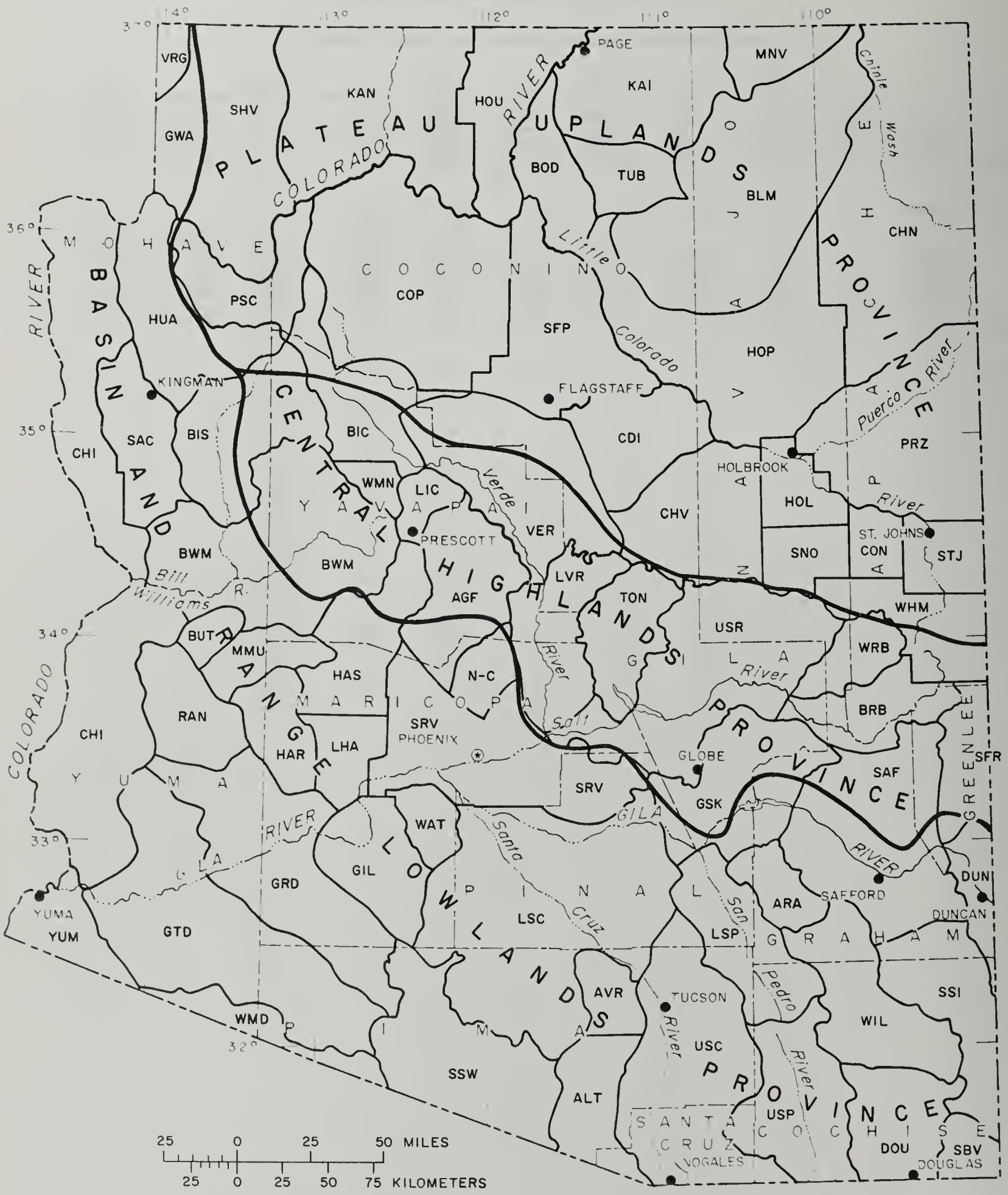

Figure 8.--Index map of ground-water areas in Arizona.

AREAS AND ABBREVIATIONS

AGF = Agua Fria basin
ALT = Altar Valley
ARA = Aravaipa Valley
AVR = Avra Valley
BIC = Big Chino Valley
BIS = Big Sandy Valley
BWM = Bill Williams
BLM = Black Mesa
BRB = Black River basin
BOD = Bodaway Mesa
BUT = Butler Valley
CDI = Canyon Diablo
CHV = Chevelon
CHN = Chinle
COP = Coconino Plateau
CHI = Colorado River, Hoover Dam to Imperial Dam
CON = Concho
DOU = Douglas basin
DUN = Duncan basin
GIL = Gila Bend basin
GRD = Gila River from Painted Rock Dam to Texas Hill
GSK = Gila River from head of San Carlos Reservoir to Kelvin
GTD = Gila River from Texas Hill to Dome
GWA = Grand Wash
HAR = Harquahala Plains
HAS = Hassayampa basin
HOL = Holbrook
HOP = Hopi
HOU = House Rock
HUA = Hualapai Valley
KAI = Kaibito
KAN = Kanab
LIC = Little Chino Valley
LHA = Lower Hassayampa
LSP = Lower San Pedro basin
LSC = Lower Santa Cruz basin
LVR = Lower Verde River
MMU = McMullen Valley
MNV = Monument Valley
N-C = New River-Cave Creek
PSC = Peach Springs Canyon
PRZ = Puerco-Zuni
RAN = Ranegras Plain
SAC = Sacramento Valley
SAF = Safford basin
SRV = Salt River Valley
SBV = San Bernardino Valley
SFP = San Francisco Peaks
SFR = San Francisco River basin
SSI = San Simon basin
SSW = San Simon Wash
SHV = Shivwits
SNO = Snowflake
STJ = St. Johns
TON = Tonto basin
TUB = Tuba City
USR = Upper Salt River basin
USP = Upper San Pedro basin
USC = Upper Santa Cruz basin
VER = Upper Verde River
VRG = Virgin River
WAT = Waterman Wash
WMD = Western Mexican drainage
WHM = White Mountains
WRB = White River basin
WIL = Willcox basin
WMN = Williamson Valley
YUM = Yuma

LATITUDE-LONGITUDE (HYDROLOGIC UNIT)	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet, NGVD[a/])	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1980	Date
AGUA FRIA BASIN											
343157N1121354.1 (15070102)	(A-13-1)2cac	200	4,603	Stock	1973-80	82.3	4- 1-80	89.5	1- 7-76	82.3	4-1
ALTAR VALLEY											
322946N1113345.1 (15080200)	(D-22-8)19dbc	160	3,610	Domestic	1950-61, 1963-66, 1968-80	85.0	2- 7-79	100.2	1- 2-78	86.9	1-23
ARAVAIPA VALLEY											
324413N1091355.1 (15050203)	(D-8-21)18dad	140	3,880	1rrigation	1955-57, 1959, 1962, 1964-69, 1971-78, 1980	28.4	4-23-68	43.4	2- 2-77	32.7	1-29
AVRA VALLEY											
320852N1111500.1 (15050304)	(D-15-11)5ccd	728	2,368	Unused	1953-57, 1959-60, 1962-63, 1968-80	281.1	3- 6-53	342.5	1- 2-80	342.5	1-2
BIG CHINO VALLEY											
345608N1123323.1 (15060201)	(B-18-3)23bbc	61	4,420	Unused	1952-67, 1969-80	8.9	2-10-66	18.5	5-31-55	14.6	4-8
BIG SANDY VALLEY											
344040N1133510.1 (15030201)	(B-16-15)36cc	15	1,880	Domestic	1945-80	9.0	3- 5-80	13.6	10-23-56	9.0	3-5
BILL WILLIAMS											
342822N1125312.1 (15030203)	(B-13-6)9dcd	52	2,500	Irrigation	1945-49, 1951-80	14.0	1-17-45	19.9	4-26-61 1-19-77	15.1	4-9
BLACK MESA											
360055N1103040.1 (15020012)	04 075-00.61X16.21 Navajo Indian Res.	1,683	5,854	Unused	1972-80	323.9	2- 1-73	338.2	2- 7-80	338.2	2-7
BUTLER VALLEY											
335823N1134715.1 (15030105)	(B-7-15)2dcc	552	1,425	Irrigation	1967-76, 1978-80	148.3	2-16-72	160.8	2-11-80	160.8	2-11
CANYON DIABLO											
345603N1104503.1 (15020008)	(A-18-15)28aad	500	5,180	Observation	1971-74, 1976-80	265.5	2-12-74	268.7	1- 3-79	265.9	1-13
CHEVELON											
355223N1105223.1 (15020008)	(A-17-14)17add	600	5,540	Stock	1964, 1968, 1970-71, 1974, 1977-78, 1980	405.7	4- 6-71	406.6	1-2-80	406.6	1-2

See footnote at end of table.

LATITUDE-LONGITUDE (HYDROLOGIC UNIT)	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet, NGVD[a/])	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1980	Date
CONCHO											
342817N1093336.1 (15020002)	(A-12-26)2bda	100	6,295	Stock	1975-80	68.3	5- 6-75	100.5	4-29-80	100.5	4-29
342555N1093216.1 (15020002)	(A-12-26)13dcd	300	5,970	Unused	1975-80	45.2	4-14-76	51.4	9-12-78	45.6	4-29
343226N1093131.1 (15020002)	(A-13-26)12dda	75	6,105	Stock	1976-80	36.5	4-15-76	49.1	4-30-80	49.1	4-30
343432N1095004.1 (15020001)	(A-14-24)29dcc	335	5,640	Stock	1975-80	238.6	5-13-75	275.7	9-10-79	247.6	4-28
343716N1093857.1 (15020002)	(A-14-25)E12cdd2	452	5,430	Irrigation	1953-58, 1960-80	11.7	5- 1-62	32.6	1-11-77	23.1	1-2
343623N1094032.1 (15020002)	(A-14-25)14ccd	350	5,600	Stock	1975-80	172.4	3- 5-75	215.6	9-14-78	199.5	4-30
343601N1093558.1 (15020002)	(A-14-26)21bcc	345	5,475	Stock Irrigation	1950, 1955, 1975-80	9.0	11- 1-50	36.8	9- 9-76	21.7	4-30
DOUGLAS BASIN											
315042N1094143.1 (15080301)	(D-18-26)28aaa2	390	4,268	Irrigation	1965-76, 1978-80	89.0	2-11-65	167.2	2-13-79	159.6	1-23
313826N1094023.1 (15080301)	(D-21-26)2baa	110	4,130	Unused	1947-80	36.6	8-26-47	106.0	1-23-80	106.0	1-23
313550N1093920.1 (15080301)	(D-21-26)24baa	---	4,195.8	Unused	1946-58, 1960-62, 1964-80	112.0	1-31-46	190.5	1-25-80	190.5	1-25
312226N1093728.1 (15080301)	(D-24-27)5bdb	---	4,000.2	Irrigation	1942, 1944-80	54.3	5-26-42	71.9	1-17-74	68.5	1-28
DUNCAN BASIN											
325114N1091058.1 (15040002)	(D-7-31)4bcc	75	3,544.4	Irrigation	1939-43, 1945-80	21.9	2-19-68	41.0	8- 8-56	26.7	1-9
GILA BEND BASIN											
330258N1123859.1 (15070101)	(C-4-4)27daa	880	745	Irrigation	1966, 1968-69, 1971, 1973-80	182.0	1- 9-74	214.0	1-11-77	184.4	3-19
325907N1125430.1 (15070101)	(C-5-6)18ddd	1,502	670	Irrigation Drainage	1966, 80	23.7	2- 6-80	40.1	2-14-73	23.7	2-6
GILA RIVER DRAINAGE FROM PAINTED ROCK DAM TO TEXAS HILL											
330607N1131619.1 (15070201)	(C-4-10)10aaa	500	688	Unused	1957-80	198.4	2-14-57	254.7	1- 8-79	239.4	2-7
325353N1133211.1 (15070201)	(C-6-12)19baa	1,352	383	Unused	1971-80	25.0	2- 7-80	39.8	1- 2-73	25.0	2-7
GILA RIVER FROM HEAD OF SAN CARLOS RESERVOIR TO KELVIN											
332102N1102802.1 (15040007)	(D-1-18)11dcc	---	2,662	Domestic Irrigation	1967-80	29.2	2-28-79	38.7	3- 2-67	31.6	1-10
330858N1104951.1 (15050100)	(D-3-15)29aba	300	2,740	Irrigation	1952-78, 1980	81.6	2-25-60	102.2	9-10-57	84.9	1-2
GILA RIVER FROM TEXAS HILL TO DOME											
324625N1135406.1 (15070201)	(C-7-16)33daa	---	278	Observation	1964-80	7.4	1-16-76	21.2	1-29-64	8.8	2-8

See footnote at end of table.

LATITUDE-LONGITUDE (HYDROLOGIC UNIT)	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet, NGVD[a/])	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1980	Date
HARQUAHALA PLAINS											
334319N1133030.1 (15070104)	(B-4-12)5ada	730	1,633.8	Irrigation	1963, 1965-80	364.6	1-17-77	451.9	1- 2-79	431.8	1-2
HASSAYAMPA											
340147N1124923.1 (15070103)	(B-8-5)18ccc	450	2,455	Domestic	1978-80	326.7	3-14-79	332.4	2-27-80	332.4	2-27
HOLBROOK											
345310N1100625.1 (15020002)	(A-17-21)10cba	160	5,140	Unused	1952-58, 1960-80	52.1	4-23-65	53.6	4-14-66	52.5	1-2
HOPI											
350002N1103555.1 (15020008)	(A-19-16)36dbb	610	4,890	Unused	1976-80	30.9	2- 9-79	37.4	2-10-76	35.2	1-13
HOUSE ROCK											
365942N1112925.1 (14070006)	(A-42-8)36cbc	655	3,735	Observation	1968-80	71.7	2-15-80	235.0	4-30-68	71.7	2-15
HUALAPAI VALLEY											
352740N1133555.1 (15010007)	(B-24-12)18daa	440	4,255	Irrigation Stock	1953-64, 1967-80	141.7	3-27-79	147.5	6- 2-55	144.2	3-6
KANAB											
365403N1124528.1 (15010003)	(B-40-4)6aac	202	5,140	Irrigation	1975-76, 1978-80	79.9	1- 4-80	81.1	1- 2-78	79.9	1-4
LITTLE CHINO VALLEY											
344846N1122714.1 (15060201)	(B-17-2)34acc	420	4,500	Unused	1950-80	3.7	4- 1-80	10.6	3-10-75	3.7	4-1
LOWER HASSAYAMPA											
332934N1125728.1 (15070104)	(B-2-7)27aab	350	1,146	Irrigation	1953, 1957-80	162.8	12- 3-53	271.9	2-27-78	269.2	1-22
LOWER SAN PEDRO BASIN											
325217N1104255.1 (15050203)	(D-6-16)33badl	60	2,110	Domestic Stock	1949-69, 1971-73, 1975-80	6.7	2-27-67	31.9	1- 2-77	8.7	1-2
323644N1104612.1 (15050203)	(D-9-15)36bbc	92	4,500	Domestic	1949-80	19.4	2- 6-79	82.1	8-16-54	25.2	1-2
LOWER SANTA CRUZ BASIN											
330435N1120858.1 (15050303)	(D-4-2)15ccb	372	1,229	Unused	1951-74, 1976-80	109.5	2-12-51	368.7	1-10-78	349.2	1-2
324917N1113536.1 (15050303)	(D-7-7)11cdd	600	1,494	Irrigation	1942-57, 1959-65, 1967-80	85.9	3-11-42	299.1	3-6-75	285.9	1-10

See footnote at end of table.

LATITUDE-LONGITUDE (HYDROLOGIC UNIT)	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet, NGVD[a/])	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1980	Date
LOWER SANTA CRUZ BASIN--Continued											
324035N1114123.1 (15050303)	(D-8-6)35ddd	770	1,545	Irrigation	1949, 1951-80	100.8	2- 7-49	180.6	2-25-75	180.4	1-16
324312N1113330.1 (15050303)	(D-8-8)18cdd1	600	1,596	Irrigation	1942, 1949, 1952-57, 1959-60, 1962-64, 1967-74, 1976-80	135.5	3- 5-42	397.4	1-14-77	360.7	1-16
323753N1112046.1 (15050303)	(D-9-10)19aaa	600	1,835	Unused	1953-80	181.1	3-28-55	226.7	1-17-68	218.0	1-9
323437N1115958.1 (15050306)	(D-10-3)12aab	255	1,631	Domestic	1956-57, 1964-75, 1977-80	206.8	2-11-57	219.6	9-27-56	210.6	1-2
McMULLEN VALLEY											
335727N1130451.1 (15070104)	(B-7-8)15baa	1,812	2,257	Irrigation	1962-80	479.4	12-26-63	563.2	3-14-78	559.4	1-24
PUERCO-ZUNI											
345620N1091040.1 (15020004)	(A-18-30)20cdd	420	6,450	Stock Domestic	1969, 1971-80	359.2	2-22-78	366.8	1-29-76	364.3	1-2
RANEGRAS PLAIN											
334839N1140300.1 (15030105)	(B-5-15)6baa2	---	1,156	---	1979-80	227.7	10- 1-79	229.1	2-11-80	229.1	2-11
SACRAMENTO VALLEY											
351109N1140300.1 (15030103)	(B-21-17)24cdd2	120	3,310	Domestic	1944-65, 1967-80	101.5	8-14-44	120.0	2-12-63	113.0	3-3
SAFFORD BASIN											
330507N1100227.1 (15040005)	(D-4-22)13acd	68	2,640	Irrigation	1952-80	8.9	3-13-68	29.0	8-31-53	17.2	1-2
330239N1100311.1 (15040005)	(D-4-22)35ada	75	2,859.5	Stock	1939-44, 1946-80	15.4	1- 2-80	39.4	3-29-40	15.4	1-2
325633N1095438.1 (15040005)	(D-6-24)5aca	64	2,779.6	Unused	1940-80	37.7	3-13-68	57.7	6-28-55	38.6	1-2
325410N1094806.1 (15040005)	(D-6-25)20aaa	46	2,821.6	Unused	1939-46, 1948-50, 1952-80	10.8	5-26-41	29.6	10-30-56	14.4	1-2
325224N1093050.1 (15040005)	(D-6-28)31aab1	540	3,150	Unused	1951-80	16.7	4-25-73	44.5	7-28-71	22.4	1-2
324855N1094033.1 (15040005)	(D-7-26)22bab	90	2,951.2	Irrigation	1940-80	20.3	5-25-42	68.2	7- 1-57	28.2	1-2
324501N1094414.1 (15040005)	(D-8-25)12dba	400	3,235	Irrigation	1950-80	55.6	3-13-50	139.2	7-31-67	71.2	1-2
324113N1094154.1 (15040005)	(D-8-26)33ccc1	400	3,340	Irrigation	1950-80	17.0	3-13-50	83.5	3-14-75	42.0	1-2
SALT RIVER VALLEY											
332613N1114205.1 (15060106)	(A-1-6)14aaa2	800	1,426	Irrigation	1964-67, 1969, 1971-74, 1976-80	513.0	3-28-64	579.6	1-10-79	563.8	1-23
333522N1115421.1 (15060106)	(A-3-4)24bcc	890	1,376	Irrigation	1967-68, 1970-80	245.2	1- 3-67	299.6	1- 4-76	278.5	3-6

See footnote at end of table.

LATITUDE-LONGITUDE (HYDROLOGIC UNIT)	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet, NGVD[a])	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1980	Date
SALT RIVER VALLEY--Continued											
334033N1121207.1 (15070102)	(A-4-2)19bcc	672	1,276	Irrigation	1948-49, 1954, 1956-59, 1963-80	221.5	1- 3-49	453.9	2-16-78	448.6	1-10
332452N1123350.1 (15070101)	(B-1-3)21dbb	425	987	Irrigation	1956-62, 1964-75, 1977-80	137.3	1-10-56	165.8	1- 5-79	160.1	1-17
331303N1113042.1 (15050100)	(D-2-8)34aad	1,000	1,553	Irrigation	1962-65, 1967, 1969, 1971-80	367.0	2-13-62	511.8	2- 2-76	471.3	1-27
SAN BERNARDINO VALLEY											
312006N1091806.1 (15080302)	(D-24-30)16ccc	100	3,800	---	1977, 1980	29.4	3- 6-80	29.9	1-26-77	29.4	3-6
SAN FRANCISCO PEAKS											
351442N1114100.1 (15020015)	(A-22-7)32cbb	146	7,170	Domestic	1968-80	48.6	4- 9-73	137.4	1-19-76	80.5	1-9
SAN SIMON BASIN											
322110N1093627.1 (15040006)	(D-12-27)32aab	250	3,980	Stock	1952-64, 1967-80	132.5	12-20-56	137.2	12-12-55	132.9	3-4
321200N1090945.1 (15040006)	(D-14-31)22adc	800	3,690	Irrigation	1973-80	92.6	4- 5-78	131.0	3- 5-80	131.0	3-5
314911N1090501.1 (15040006)	(D-18-32)33bca2	227	4,220	Domestic Stock	1969-80	134.7	1-22-70	148.3	1- 2-75	142.1	3-6
SAN SIMON WASH											
315444N1115503.1 (15080101)	(D-17-4)34abd	201	2,301.4	Irrigation	1968-80	117.9	3-21-79	126.9	3-13-75	119.0	1-2
SNOWFLAKE											
343009N1100435.1 (15020005)	(A-13-21)24ccb	328	5,618	Irrigation	1952-58, 1960-61, 1963-80	60.2	5-13-57 4-24-58	97.3	3- 5-70	87.4	1-2
ST. JOHNS											
342548N1092503.1 (15020002)	(A-12-28)19bad	650	5,925	Irrigation	1975-80	17.0	4-29-80	38.8	9- 9-76	17.0	4-29
343018N1092353.1 (15020002)	(A-13-28)29bcd	47	5,800	Domestic	1944-58, 1960-72, 1975-80	7.4	3-15-67	30.9	5- 3-56	16.4	1-2
343439N1092703.1 (15020002)	(A-14-27)35bdc	---	5,635	Stock	1975-80	81.8	5-11-78	108.0	4- 9-79	100.0	4-30
UPPER SALT RIVER BASIN											
332658N1104932.1 (15060103)	(A-1-15)9aad2	---	3,237	Domestic	1970-80	8.8	2-28-79	65.5	1-19-77	49.4	1-10
332055N1104555.1 (15060103)	(D-1-15)13bda	105	3,800	Domestic Irrigation	1946-55, 1957, 1959-80	3.5	5- 5-49	39.5	2-14-61	11.6	1-10

See footnote at end of table.

LATITUDE-LONGITUDE (HYDROLOGIC UNIT)	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet, NGVD[a/])	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1980	Date
UPPER SAN PEDRO BASIN											
320005N1101709.1 (15050202)	(D-16-20)34acd2	117	3,525	Irrigation	1969-80	75.8	2-13-79 1- 2-80	90.1	1-26-76	75.8	1-2
315508N1101334.1 (15050202)	(D-17-21)32bab	520	3,705	Stock	1944-80	16.9	12- 9-46	47.8	1-22-75	39.0	1-2
315417N1101400.1 (15050202)	(D-18-21)6aaa2	60	3,640	Domestic	1944-58, 1960-80	24.8	2-23-78	37.9	9-27-56	28.7	1-2
312250N1100639.1 (15050202)	(D-23-22)33dcd2	91.5	4,225	Observation	1954-63, 1966-80	11.5	8-24-55	20.4	1- 2-80	20.4	1-2
UPPER SANTA CRUZ BASIN											
320824N1105930.1 (15050301)	(D-15-13)11cba	224	2,457	Observation	1968-80	83.0	2-21-68	147.8	2-16-79	142.2	1-2
314718N1104138.1 (15050302)	(D-19-16)15aba	300	4,900	Stock Domestic	1952-80	203.7	4-10-69	222.9	1- 2-80	222.9	1-2
312421N1105355.1 (15050301)	(D-23-14)27baa	36	3,575	Unused	1939-80	12.6	1- 6-60	21.8	7-28-48	17.6	1-2
312119N1103517.1 (15050301)	(D-24-17)11cda	23	4,650	Observation	1949-80	1.8	12-30-55	14.6	7-24-64	6.2	1-2
UPPER VERDE RIVER											
344307N1115527.1 (15060202)	(A-15-4)4ddc1	250	3,355	Domestic	1959-80	36.8	8-18-59	60.4	1-25-77	57.0	1-14
WATERMAN WASH											
331545N1122732.1 (15070101)	(C-2-2)10ccc	750	1,015	Irrigation	1955-62, 1964-71, 1974-80	142.3	1-25-55	307.5	1- 8-80	307.5	1-8
WHITE MOUNTAINS											
341429N1100252.1 (15020005)	(A-10-22)30aba	750	6,485	Municipal	1969-80	523.2	3-27-69	532.0	2-13-74	530.6	1-2
WILLCOX BASIN											
321834N1095430.1 (15050201)	(D-13-24)16bbb	1,356	4,209	Observation	1942, 1944-80	29.7	5-13-42	130.7	8-31-62	122.8	1-29
321323N1095217.1 (15050201)	(D-14-24)14bba2	---	4,167	Domestic	1963-69, 1971-80	9.0	2- 6-63	27.6	2-21-78	27.0	1-30
321115N1095552.1 (15050201)	(D-14-24)30dba	---	4,187	Stock	1942, 1944-57, 1963-80	16.0	10-21-55	33.9	1-14-78	29.3	1-30
320236N1094750.1 (15050201)	(D-16-25)16add	65	4,190	Stock	1942, 1944-80	27.0	2-18-69	43.6	12-19-57	34.9	2-28
WILLIAMSON VALLEY											
344636N1123944.1 (15060201)	(B-16-4)14bbb	352	4,600	Irrigation	1952-53, 1955-76, 1978-80	Flowing	3-14-78	7.8	10-23-56	1.8	4-10
YUMA											
323840N1143201.1 (15030108)	(C-9-22)17dca	191	205	Observation	1945-67, 1969-80	54.8	3- 7-62 2- 8-63	97.6	9- 5-46	67.1	1-23

a/NGVD, National Geodetic Vertical Datum of 1929.

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
AGUA FRIA BASIN										
B-07-01 04ADD	GW	79-10-09	1000	7.5	23.3	--	--	--	--	--
BIG SANDY VALLEY										
B-15-13 02DBA	GW	80-08-20	1510	7.5	22.0	420	180	96	43	170
B-15-13 12CDC	GW	80-08-20	1210	7.5	22.0	200	0	45	21	200
B-15-13 13DBB	GW	80-05-21	--	--	--	--	--	--	--	--
B-16-13 03ACC	GW	80-08-19	610	7.5	19.0	180	0	49	13	54
B-16-13 10ADB	GW	80-08-19	640	7.6	20.0	200	0	54	16	62
B-16-13 10BCC2	GW	80-04-17	--	--	--	--	--	--	--	--
B-16-13 15BDB1	GW	80-04-03	870	--	--	--	--	--	--	--
B-16-13 15CCB	GW	80-04-16	--	--	--	--	--	--	--	--
B-16-13 22BBA	GW	80-04-03	--	--	--	--	--	--	--	--
B-16-13 22BBC1	GW	80-04-16	--	--	--	--	--	--	--	--
B-16-13 22BBC3	GW	80-04-17	--	--	--	--	--	--	--	--
B-16-13 22BCA	GW	80-04-03	--	--	--	--	--	--	--	--
B-16-13 22BCD	GW	80-04-16	--	--	--	--	--	--	--	--
B-16-13 22CBA	GW	80-04-02	--	--	--	--	--	--	--	--
B-16-13 22CDC	GW	80-04-02	--	--	--	--	--	--	--	--
B-16-13 26CAA2	GW	80-03-12	--	--	--	--	--	--	--	--
B-16-13 27ABB2	GW	80-04-03	--	--	--	--	--	--	--	--
B-16-13 27ACC	GW	80-04-04	--	--	--	--	--	--	--	--
B-16-13 27ADC1	GW	80-04-03	--	--	--	--	--	--	--	--
B-16-13 27BAB2	GW	80-04-17	1340	--	--	--	--	--	--	--
B-16-13 27BBB	GW	80-03-14	--	--	--	--	--	--	--	--
	GW	80-08-20	550	9.0	26.0	8	0	2.7	.2	120
B-16-13 27BBD	GW	80-03-14	--	--	24.0	--	--	--	--	--
	GW	80-08-20	970	7.7	24.0	220	5	51	23	120
B-16-13 27BDD	GW	80-04-03	--	--	--	--	--	--	--	--
B-16-13 27DBC	GW	80-04-02	--	--	--	--	--	--	--	--
B-16-13 27DDC2	GW	80-03-04	--	--	--	--	--	--	--	--
B-16-14 19BAD	GW	80-05-20	1000	--	--	--	--	--	--	--
B-16-14 20CCB	GW	80-05-30	--	--	27.0	--	--	--	--	--
B-16N13 21DCA	GW	80-04-04	--	--	--	--	--	--	--	--
B-16N13 22CBB2	GW	80-08-19	675	7.5	18.0	200	0	53	17	49
B-16N13 22CCC	GW	80-08-19	640	7.6	19.0	180	--	49	15	54
B-16N13 27CAC	GW	80-08-19	620	7.5	19.0	180	0	47	15	53
B-16N13 34CBA	GW	80-08-19	580	7.9	16.5	190	0	51	16	48
B-17-12 10DAB	GW	80-05-07	--	--	--	--	--	--	--	--
B-17-13 02BBB	GW	80-03-13	810	--	--	--	--	--	--	--
B-17-13 02BBD	GW	80-08-20	625	7.5	18.5	180	0	47	16	58
B-17-13 03DAA	GW	80-03-13	--	--	--	--	--	--	--	--
B-17-13 03DDC	GW	80-04-22	--	--	--	--	--	--	--	--
B-17-13 10DAA1	GW	80-03-07	--	--	--	--	--	--	--	--
B-17-13 11ABB	GW	80-03-13	--	--	--	--	--	--	--	--
B-17-13 11CBA	GW	80-04-22	--	--	--	--	--	--	--	--
B-17-13 14BAA	GW	80-08-19	520	7.5	17.5	160	0	42	14	40
B-17-13 22DAD	GW	80-04-16	--	--	--	--	--	--	--	--
B-17-13 23CDC3	GW	80-03-07	--	--	--	--	--	--	--	--
B-17-13 23DDD	GW	80-03-12	--	--	--	--	--	--	--	--
B-17-13 26ABA	GW	80-08-20	530	7.4	18.5	160	0	39	14	42
B-17-13 26BBA	GW	80-04-16	--	--	--	--	--	--	--	--
B-17-14 01BBB	GW	80-06-01	--	--	25.0	--	--	--	--	--
B-18-07 04BBC	GW	80-07-15	--	--	--	--	--	--	--	--
B-18-08 12BBC	GW	80-07-10	--	--	--	--	--	--	--	--
B-18-09 10ABD2	GW	80-07-15	--	--	--	--	--	--	--	--
B-18-11 20DBD	GW	80-04-24	--	--	--	--	--	--	--	--
B-18-11 21DDB	GW	80-04-24	--	--	28.0	--	--	--	--	--
B-18-12 02DDA	GW	80-04-24	--	--	--	--	--	--	--	--
B-18-12 23DDC	GW	80-05-06	--	--	--	--	--	--	--	--
B-18-12 25DDC	GW	80-05-06	--	--	--	--	--	--	--	--
B-18-12 26CDA	SP	80-05-07	--	--	19.0	--	--	--	--	--
B-18-12 28DDC	GW	80-04-23	--	--	--	--	--	--	--	--
B-18-12 35CDB	GW	80-05-07	--	--	--	--	--	--	--	--
B-18-13 18DCB	GW	80-06-01	--	--	22.0	--	--	--	--	--
B-18-13 21CDB	SP	80-06-01	--	--	26.0	--	--	--	--	--
	SP	80-08-21	540	7.7	--	170	50	50	11	41
B-18-13 28AAB	GW	80-04-23	--	--	--	--	--	--	--	--
B-18-13 34CCD	GW	80-03-05	--	--	7.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
AGUA FRIA BASIN										
B-07-01 04ADD	79-10-09	--	--	--	--	--	--	5.0	--	--
BIG SANDY VALLEY										
B-15-13 02DBA	80-08-20	3.6	5.8	--	--	390	110	2.4	40	1010
B-15-13 12CDC	80-08-20	6.2	6.6	--	--	82	81	.3	58	755
B-15-13 13DBB	80-05-21	--	--	--	--	--	--	2.3	--	--
B-16-13 03ACC	80-08-19	1.8	4.6	--	--	35	34	1.7	41	342
B-16-13 10ADB	80-08-19	2.0	5.1	--	--	44	41	1.3	43	400
B-16-13 10BCC2	80-04-17	--	--	--	--	--	--	10	--	--
B-16-13 15BDB1	80-04-03	--	--	--	--	--	--	1.7	--	--
B-16-13 15CCB	80-04-16	--	--	--	--	--	--	3.8	--	--
B-16-13 22BBA	80-04-03	--	--	--	--	--	--	1.8	--	--
B-16-13 22BBC1	80-04-16	--	--	--	--	--	--	2.6	--	--
B-16-13 22BBC3	80-04-17	--	--	--	--	--	--	2.9	--	--
B-16-13 22BCA	80-04-03	--	--	--	--	--	--	2.1	--	--
B-16-13 22BCD	80-04-16	--	--	--	--	--	--	2.7	--	--
B-16-13 22CBA	80-04-02	--	--	--	--	--	--	1.9	--	--
B-16-13 22CDC	80-04-02	--	--	--	--	--	--	2.0	--	--
B-16-13 26CAA2	80-03-12	--	--	--	--	--	--	2.3	--	--
B-16-13 27ABB2	80-04-03	--	--	--	--	--	--	1.5	--	--
B-16-13 27ACC	80-04-04	--	--	--	--	--	--	1.8	--	--
B-16-13 27ADC1	80-04-03	--	--	--	--	--	--	1.7	--	--
B-16-13 27BAB2	80-04-17	--	--	--	--	--	--	2.8	--	--
B-16-13 27BBB	80-03-14	--	--	--	--	--	--	2.7	--	--
	80-08-20	19	2.2	--	--	59	50	2.9	18	332
B-16-13 27BBD	80-03-14	--	--	--	--	--	--	2.6	--	--
	80-08-20	3.8	4.2	--	--	110	84	2.7	37	571
B-16-13 27BDD	80-04-03	--	--	--	--	--	--	2.1	--	--
B-16-13 27DBC	80-04-02	--	--	--	--	--	--	2.2	--	--
B-16-13 27DDC2	80-03-04	--	--	--	--	--	--	2.7	--	--
B-16-14 19BAD	80-05-20	--	--	--	--	--	--	2.4	--	--
B-16-14 20CCB	80-05-30	--	--	--	--	--	--	2.9	--	--
B-16N13 21DCA	80-04-04	--	--	--	--	--	--	2.5	--	--
B-16N13 22CBB2	80-08-19	1.5	4.8	--	--	34	37	.8	39	382
B-16N13 22CCC	80-08-19	1.9	--	--	--	--	--	1.1	39	--
B-16N13 27CAC	80-08-19	1.7	4.9	--	--	32	34	1.1	39	369
B-16N13 34CBA	80-08-19	1.6	4.1	--	--	39	37	1.5	35	358
B-17-12 10DAB	80-05-07	--	--	--	--	--	--	2.8	--	--
B-17-13 02BBB	80-03-13	--	--	--	--	--	--	1.4	--	--
B-17-13 02BBD	80-08-20	2.0	4.6	--	--	50	37	1.3	39	368
B-17-13 03DAA	80-03-13	--	--	--	--	--	--	1.6	--	--
B-17-13 03DDC	80-04-22	--	--	--	--	--	--	1.9	--	--
B-17-13 10DAA1	80-03-07	--	--	--	--	--	--	1.6	--	--
B-17-13 11ABB	80-03-13	--	--	--	--	--	--	1.1	--	--
B-17-13 11CBA	80-04-22	--	--	--	--	--	--	1.9	--	--
B-17-13 14BAA	80-08-19	1.4	6.4	--	--	23	25	.6	37	300
B-17-13 22DAD	80-04-16	--	--	--	--	--	--	8.0	--	--
B-17-13 23CDC3	80-03-07	--	--	--	--	--	--	1.8	--	--
B-17-13 23DDD	80-03-12	--	--	--	--	--	--	1.2	--	--
B-17-13 26ABA	80-08-20	1.5	5.5	--	--	22	25	.8	40	314
B-17-13 26BBA	80-04-16	--	--	--	--	--	--	2.4	--	--
B-17-14 01BBB	80-06-01	--	--	--	--	--	--	1.1	--	--
B-18-07 04BBC	80-07-15	--	--	--	--	--	--	.3	--	--
B-18-08 12BBC	80-07-10	--	--	--	--	--	--	.4	--	--
B-18-09 10ABD2	80-07-15	--	--	--	--	--	--	.3	--	--
B-18-11 20DBD	80-04-24	--	--	--	--	--	--	2.4	--	--
B-18-11 21DDB	80-04-24	--	--	--	--	--	--	1.7	--	--
B-18-12 02DDA	80-04-24	--	--	--	--	--	--	6.3	--	--
B-18-12 23DDC	80-05-06	--	--	--	--	--	--	3.0	--	--
B-18-12 25DDC	80-05-06	--	--	--	--	--	--	2.5	--	--
B-18-12 26CDA	80-05-07	--	--	--	--	--	--	2.2	--	--
B-18-12 28DDC	80-04-23	--	--	--	--	--	--	2.0	--	--
B-18-12 35CDB	80-05-07	--	--	--	--	--	--	3.5	--	--
B-18-13 18DCB	80-08-01	--	--	--	--	--	--	3.0	--	--
B-18-13 21CDB	80-06-01	--	--	--	--	--	--	.8	--	--
	80-08-21	1.4	2.0	--	--	52	52	.6	26	315
B-18-13 28AAB	80-04-23	--	--	--	--	--	--	2.1	--	--
B-18-13 34CCD	80-03-05	--	--	--	--	--	--	.8	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	SAMPLE NUMBER
AGUA FRIA BASIN										
B-07-01 04ADD	79-10-09	--	--	--	--	--	--	--	--	1010
BIG SANDY VALLEY										
B-15-13 02DBA	80-08-20	1.37	2.0	--	--	--	290	<10	<1	1060
B-15-13 12CDC	80-08-20	1.03	1.8	--	--	--	710	<10	<1	1060
B-15-13 13DBB	80-05-21	--	--	--	--	--	--	--	--	1060
B-16-13 03ACC	80-08-19	.49	.77	--	--	--	150	<10	<1	1060
B-16-13 10ADB	80-08-19	.54	1.1	--	9	--	220	<10	<1	1060
B-16-13 10BCC2	80-04-17	--	--	--	--	--	--	--	--	1060
B-16-13 15BDB1	80-04-03	--	--	--	--	--	--	--	--	1060
B-16-13 15CCB	80-04-16	--	--	--	--	--	--	--	--	1060
B-16-13 22BBA	80-04-03	--	--	--	--	--	--	--	--	1060
B-16-13 22BBC1	80-04-16	--	--	--	--	--	--	--	--	1060
B-16-13 22BBC3	80-04-17	--	--	--	--	--	--	--	--	1060
B-16-13 22BCA	80-04-03	--	--	--	--	--	--	--	--	1060
B-16-13 22BCD	80-04-16	--	--	--	--	--	--	--	--	1060
B-16-13 22CBA	80-04-02	--	--	--	--	--	--	--	--	1060
B-16-13 22CDC	80-04-02	--	--	--	--	--	--	--	--	1060
B-16-13 26CAA2	80-03-12	--	--	--	--	--	--	--	--	1060
B-16-13 27ABB2	80-04-03	--	--	--	--	--	--	--	--	1060
B-16-13 27ACC	80-04-04	--	--	--	--	--	--	--	--	1060
B-16-13 27ADC1	80-04-03	--	--	--	--	--	--	--	--	1060
B-16-13 27BAB2	80-04-17	--	--	--	--	--	--	--	--	1060
B-16-13 27BBB	80-03-14	--	--	--	--	--	--	--	--	1060
	80-08-20	.45	.96	--	10	--	340	90	<1	1060
B-16-13 27BBD	80-03-14	--	--	--	--	--	--	--	--	1060
	80-08-20	.78	1.2	--	1	--	270	41	17	1060
B-16-13 27BDD	80-04-03	--	--	--	--	--	--	--	--	1060
B-16-13 27DBC	80-04-02	--	--	--	--	--	--	--	--	1060
B-16-13 27DDC2	80-03-04	--	--	--	--	--	--	--	--	1060
B-16-14 19BAD	80-05-20	--	--	--	--	--	--	--	--	1060
B-16-14 20CCB	80-05-30	--	--	--	--	--	--	--	--	1060
B-16N13 21DCA	80-04-04	--	--	--	--	--	--	--	--	1060
B-16N13 22CBB2	80-08-19	.52	.56	--	--	--	160	<10	10	1060
B-16N13 22CCC	80-08-19	--	--	--	8	--	--	<10	<1	1060
B-16N13 27CAC	80-08-19	.50	1.0	--	--	--	200	<10	<1	1060
B-16N13 34CBA	80-08-19	.48	.66	--	7	--	200	18	2	1060
B-17-12 10DAB	80-05-07	--	--	--	--	--	--	--	--	1060
B-17-13 02BBB	80-03-13	--	--	--	--	--	--	--	--	1060
B-17-13 02BBD	80-08-20	.50	.54	--	12	--	160	<10	<1	1060
B-17-13 03DAA	80-03-13	--	--	--	--	--	--	--	--	1060
B-17-13 03DDC	80-04-22	--	--	--	--	--	--	--	--	1060
B-17-13 10DAA1	80-03-07	--	--	--	--	--	--	--	--	1060
B-17-13 11ABB	80-03-13	--	--	--	--	--	--	--	--	1060
B-17-13 11CBA	80-04-22	--	--	--	--	--	--	--	--	1060
B-17-13 14BAA	80-08-19	.41	.93	--	--	--	150	<10	<1	1060
B-17-13 22DAD	80-04-16	--	--	--	--	--	--	--	--	1060
B-17-13 23CDC3	80-03-07	--	--	--	--	--	--	--	--	1060
B-17-13 25DDD	80-03-12	--	--	--	--	--	--	--	--	1060
B-17-13 26ABA	80-08-20	.43	1.1	--	--	--	150	<10	1	1060
B-17-13 26BBA	80-04-16	--	--	--	--	--	--	--	--	1060
B-17-14 01BBB	80-06-01	--	--	--	--	--	--	--	--	1060
B-18-07 04BBC	80-07-15	--	--	--	--	--	--	--	--	1060
B-18-08 12BBC	80-07-10	--	--	--	--	--	--	--	--	1060
B-18-09 10ABD2	80-07-15	--	--	--	--	--	--	--	--	1060
B-18-11 20DBD	80-04-24	--	--	--	--	--	--	--	--	1060
B-18-11 21DDB	80-04-24	--	--	--	--	--	--	--	--	1060
B-18-12 02DDA	80-04-24	--	--	--	--	--	--	--	--	1060
B-18-12 23DDC	80-05-06	--	--	--	--	--	--	--	--	1060
B-18-12 25DDC	80-05-06	--	--	--	--	--	--	--	--	1060
B-18-12 26CDA	80-05-07	--	--	--	--	--	--	--	--	1060
B-18-12 28DDC	80-04-23	--	--	--	--	--	--	--	--	1060
B-18-12 35CDB	80-05-07	--	--	--	--	--	--	--	--	1060
B-18-13 18DCB	80-06-01	--	--	--	--	--	--	--	--	1060
B-18-13 21CDB	80-06-01	--	--	--	--	--	--	--	--	1060
	80-08-21	.43	1.9	--	--	--	70	<10	3	1060
B-18-13 28AAB	80-04-23	--	--	--	--	--	--	--	--	1060
B-18-13 34CCD	80-03-05	--	--	--	--	--	--	--	--	1060

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	STIF	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
BIG SANDY VALLEY--CONTINUED										
B-18-13 35BAD	GW	80-09-21	670	7.3	19.0	210	0	53	20	57
B-18-14 09ADB	GW	80-05-08	--	--	24.0	--	--	--	--	--
B-18-14 11CCA	GW	80-06-05	--	--	20.0	--	--	--	--	--
	GW	80-08-21	1200	7.6	24.0	330	13	79	53	120
B-18-18 20CDC	SP	79-10-24	418	--	--	--	--	--	--	--
B-19-08 04CBB	GW	80-07-09	--	--	--	--	--	--	--	--
B-19-08 05DAC	GW	80-07-09	--	--	--	--	--	--	--	--
B-19-08 36BBB	GW	80-07-10	--	--	--	--	--	--	--	--
B-19-13 04CDA	GW	80-07-09	--	--	--	--	--	--	--	--
	GW	80-08-22	715	7.4	22.0	200	16	44	21	47
B-19-13 16DAA	GW	80-07-09	--	--	--	--	--	--	--	--
	GW	80-08-22	750	7.7	27.5	210	0	40	26	70
B-19-13 28DCD	GW	80-07-09	--	--	--	--	--	--	--	--
	GW	80-08-22	685	7.9	24.0	180	0	45	17	90
B-19-14 04BBC	GW	80-06-02	--	--	--	--	--	--	--	--
B-19-14 10BDC	GW	80-06-02	--	--	21.0	--	--	--	--	--
B-19-14 18CCA	GW	80-05-08	--	--	15.0	--	--	--	--	--
B-19-14 24AAA	GW	80-06-04	--	--	21.0	--	--	--	--	--
B-19-15 23ACB	GW	80-05-08	--	--	17.0	--	--	--	--	--
B-20-08 27BBB	GW	80-07-09	--	--	--	--	--	--	--	--
B-20-09 34ADC	GW	80-08-06	300	--	--	--	--	--	--	--
B-20-10 25BAC	GW	80-09-06	--	--	--	--	--	--	--	--
B-20-12 08BDA	GW	80-06-11	--	--	15.0	--	--	--	--	--
B-20-12 16DDB	GW	80-06-11	--	--	--	--	--	--	--	--
B-20-12 30ADD	GW	80-06-11	--	--	--	--	--	--	--	--
B-20-13 03DBC	GW	80-03-24	--	--	--	--	--	--	--	--
	GW	80-06-12	--	--	25.0	--	--	--	--	--
B-20-13 15BAA	GW	80-06-12	--	--	23.0	--	--	--	--	--
	GW	80-08-21	605	8.4	23.5	200	0	35	27	47
B-20-13 22DDD	GW	80-06-11	--	--	24.0	--	--	--	--	--
B-20-13 25DCC	GW	80-06-11	--	--	--	--	--	--	--	--
B-20-13 28DDA	GW	80-06-11	--	--	17.0	--	--	--	--	--
	GW	80-08-21	695	8.2	25.5	240	10	32	39	45
B-20-14 19BDB	GW	80-06-02	--	--	18.0	--	--	--	--	--
B-20-14 21ACA2	GW	80-06-02	--	--	16.0	--	--	--	--	--
B-20-14 33BDA	GW	80-06-02	--	--	16.0	--	--	--	--	--
B-21-07 07WDDA	GW	80-07-08	--	--	--	--	--	--	--	--
B-21-08 36CBC	GW	80-07-08	--	--	--	--	--	--	--	--
B-21-10 17CCD2	GW	80-07-08	--	--	24.0	--	--	--	--	--
B-21-10 29ACB	GW	80-07-08	--	--	18.0	--	--	--	--	--
B-21-10 33DBA	GW	80-08-06	--	--	--	--	--	--	--	--
B-21-13 10CCA	GW	80-07-09	--	--	--	--	--	--	--	--
B-21-13 24BCD	GW	80-06-12	--	--	28.0	--	--	--	--	--
B-21-13 30DCB	GW	80-08-22	2700	7.6	30.0	390	0	49	65	520
B-21-13 31DAA	GW	80-03-05	--	--	--	--	--	--	--	--
B-21-14 24DAC	GW	80-03-18	--	--	--	--	--	--	--	--
	GW	80-08-22	440	7.5	32.5	140	0	20	21	43
B-22-08 21AAB	GW	80-07-15	--	--	22.0	--	--	--	--	--
B-22-10 08BCB	GW	80-07-10	--	--	--	--	--	--	--	--
B-22-13 34ADD2	GW	80-03-24	--	--	--	--	--	--	--	--
	GW	80-05-19	525	7.5	23.0	170	32	31	23	27
B-23-09 01BCC2	GW	80-07-16	--	--	18.7	--	--	--	--	--
B-23-10 14DCD	GW	80-07-16	--	--	--	--	--	--	--	--
BILL WILLIAMS										
B-09-09 04CBC	GW	80-04-02	405	8.1	28.0	130	0	35	11	35
B-10-08 16DBB2	GW	80-04-02	345	8.5	17.0	17	0	4.8	1.2	82
B-10-12 12CCC	GW	80-04-10	488	8.1	--	110	0	33	7.2	59
B-10-14 23BAC	GW	80-04-03	1405	7.6	19.5	260	29	56	29	220
B-11-05 24DAB3	GW	80-04-11	365	7.3	16.5	150	4	45	10	15
B-11-05 25DBD	GW	80-04-11	413	--	17.0	--	--	--	--	--
B-11-06 08BCA	GW	79-10-23	337	--	--	--	--	--	--	--
B-11-06 10CBB	GW	79-10-23	368	--	22.0	--	--	--	--	--
B-11-06 29DAB	GW	79-10-17	650	--	--	--	--	--	--	--
B-11-06 29DBA	GW	79-10-17	688	--	19.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
BIG SANDY VALLEY--CONTINUED										
B-18-13 35BAD	80-08-21	1.7	5.9	--	--	56	44	1.2	40	415
B-18-14 09ADB	80-05-08	--	--	--	--	--	--	1.0	--	--
B-18-14 11CCA	80-06-05	--	--	--	--	--	--	3.5	--	--
	80-08-21	2.9	3.3	--	--	120	110	4.5	33	717
B-18-18 20CDC	79-10-24	--	--	--	--	--	--	.4	--	--
B-19-08 04CBB	80-07-09	--	--	--	--	--	--	.3	--	--
B-19-08 05DAC	80-07-09	--	--	--	--	--	--	.5	--	--
B-19-08 36BBB	80-07-10	--	--	--	--	--	--	.3	--	--
B-19-13 04CDA	80-07-09	--	--	--	--	--	--	1.2	--	--
	80-08-22	1.5	3.6	--	--	35	66	1.1	24	356
B-19-13 16DAA	80-07-09	--	--	--	--	--	--	1.5	--	--
	80-08-22	2.1	3.8	--	--	29	58	1.5	40	438
B-19-13 28DCD	80-07-09	--	--	--	--	--	--	2.0	--	--
	80-08-22	2.9	3.4	--	--	37	77	2.0	27	438
B-19-14 04BBC	80-06-02	--	--	--	--	--	--	3.0	--	--
B-19-14 10BDC	80-06-02	--	--	--	--	--	--	6.8	--	--
B-19-14 18CCA	80-05-08	--	--	--	--	--	--	1.8	--	--
B-19-14 24AAA	80-06-04	--	--	--	--	--	--	1.7	--	--
B-19-15 23ACB	80-05-08	--	--	--	--	--	--	3.8	--	--
B-20-08 27BBB	80-07-09	--	--	--	--	--	--	.4	--	--
B-20-09 34ADC	80-08-06	--	--	--	--	--	--	.7	--	--
B-20-10 25BAC	80-08-06	--	--	--	--	--	--	.3	--	--
B-20-12 08BDA	80-06-11	--	--	--	--	--	--	.8	--	--
B-20-12 16DDB	80-06-11	--	--	--	--	--	--	1.7	--	--
B-20-12 30ADD	80-06-11	--	--	--	--	--	--	2.9	--	--
B-20-13 03DBC	80-03-24	--	--	--	--	--	--	.9	--	--
	80-06-12	--	--	--	--	--	--	1.0	--	--
B-20-13 15BAA	80-06-12	--	--	--	--	--	--	1.0	--	--
	80-08-21	1.5	5.5	--	--	29	38	.9	40	363
B-20-13 22DDD	80-06-11	--	--	--	--	--	--	1.2	--	--
B-20-13 25DCC	80-06-11	--	--	--	--	--	--	1.6	--	--
B-20-13 28DDA	80-06-11	--	--	--	--	--	--	1.5	--	--
	80-08-21	1.3	4.9	--	--	28	59	1.0	36	393
B-20-14 19BDB	80-06-02	--	--	--	--	--	--	20	--	--
B-20-14 21ACA2	80-06-02	--	--	--	--	--	--	3.5	--	--
B-20-14 33BDA	80-06-02	--	--	--	--	--	--	3.8	--	--
B-21-07 07WDDA	80-07-08	--	--	--	--	--	--	.4	--	--
B-21-08 36CBC	80-07-08	--	--	--	--	--	--	.7	--	--
B-21-10 17CCD2	80-07-08	--	--	--	--	--	--	.5	--	--
B-21-10 29ACB	80-07-08	--	--	--	--	--	--	1.4	--	--
B-21-10 35DBA	80-08-06	--	--	--	--	--	--	.5	--	--
B-21-13 10CCA	80-07-09	--	--	--	--	--	--	.5	--	--
B-21-13 24BCD	80-06-12	--	--	--	--	--	--	1.2	--	--
B-21-13 30DCB	80-08-22	11	10	--	--	160	520	5.7	46	1800
B-21-13 31DAA	80-03-05	--	--	--	--	--	--	1.4	--	--
B-21-14 24DAC	80-03-18	--	--	--	--	--	--	4.3	--	--
	80-08-22	1.6	4.0	--	--	15	10	5.3	43	282
B-22-08 21AAB	80-07-15	--	--	--	--	--	--	.6	--	--
B-22-10 08BCB	80-07-10	--	--	--	--	--	--	.7	--	--
B-22-13 34ADD2	80-05-24	--	--	--	--	--	--	.6	--	--
	80-05-19	.9	5.0	--	--	23	39	.7	52	291
B-23-09 01BCC2	80-07-16	--	--	--	--	--	--	.3	--	--
B-23-10 14DCD	80-07-16	--	--	--	--	--	--	.4	--	--
BILL WILLIAMS										
B-09-09 04CBC	80-04-02	1.3	3.1	--	--	25	30	.5	28	252
B-10-08 16DBB2	80-04-02	8.7	1.3	--	--	15	16	.6	25	231
B-10-12 12CCC	80-04-10	2.4	3.1	--	--	32	41	.6	27	299
B-10-14 23BAC	80-04-03	5.9	7.5	--	--	180	160	2.0	37	830
B-11-05 24DAB3	80-04-11	.5	2.0	--	--	9.1	13	.3	53	238
B-11-05 25DBD	80-04-11	--	--	--	--	--	--	.5	--	--
B-11-06 08BCA	79-10-23	--	--	--	--	--	--	.9	--	--
B-11-06 10CBB	79-10-23	--	--	--	--	--	--	1.0	--	--
B-11-06 29DAB	79-10-17	--	--	--	--	--	--	1.5	--	--
B-11-06 29DBA	79-10-17	--	--	--	--	--	--	1.2	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	SAMPLE NUMBER
BIG SANDY VALLEY--CONTINUED										
B-18-13 35BAD	80-08-21	.56	1.2	--	--	--	150	<10	4	1060
B-18-14 09ADB	80-05-08	--	--	--	--	--	--	--	--	1060
B-18-14 11CCA	80-06-05	--	--	--	--	--	--	--	--	1060
	80-08-21	.98	4.8	--	--	--	180	10	8	1060
B-18-18 20CDC	79-10-24	--	--	--	--	--	--	--	--	1060
B-19-08 04CBB	80-07-09	--	--	--	--	--	--	--	--	1060
B-19-08 05DAC	80-07-09	--	--	--	--	--	--	--	--	1060
B-19-08 36BBB	80-07-10	--	--	--	--	--	--	--	--	1060
B-19-13 04CDA	80-07-09	--	--	--	--	--	--	--	--	1060
	80-08-22	.46	1.3	--	--	--	130	20	3	1060
B-19-13 16DAA	80-07-09	--	--	--	--	--	--	--	--	1060
	80-08-22	.60	4.3	--	--	--	260	<10	4	1060
B-19-13 28DCD	80-07-09	--	--	--	--	--	--	--	--	1060
	80-08-22	.60	2.9	--	--	--	260	<10	8	1060
B-19-14 04BBC	80-06-02	--	--	--	--	--	--	--	--	1060
B-19-14 10BDC	80-06-02	--	--	--	--	--	--	--	--	1060
B-19-14 18CCA	80-05-08	--	--	--	--	--	--	--	--	1060
B-19-14 24AAA	80-06-04	--	--	--	--	--	--	--	--	1060
B-19-15 23ACB	80-05-08	--	--	--	--	--	--	--	--	1060
B-20-08 27BBB	80-07-09	--	--	--	--	--	--	--	--	1060
B-20-09 34ADC	80-08-06	--	--	--	--	--	--	--	--	1060
B-20-10 25BAC	80-08-06	--	--	--	--	--	--	--	--	1060
B-20-12 08BDA	80-06-11	--	--	--	--	--	--	--	--	1060
B-20-12 16DDB	80-06-11	--	--	--	--	--	--	--	--	1060
B-20-12 30ADD	80-06-11	--	--	--	--	--	--	--	--	1060
B-20-13 03DBC	80-03-24	--	--	--	--	--	--	--	--	1060
	80-06-12	--	--	--	--	--	--	--	--	1060
B-20-13 15BAA	80-06-12	--	--	--	--	--	--	--	--	1060
	80-08-21	.49	1.8	--	--	--	190	<10	4	1060
B-20-13 22DDD	80-06-11	--	--	--	--	--	--	--	--	1060
B-20-13 25DCC	80-06-11	--	--	--	--	--	--	--	--	1060
B-20-13 28DDA	80-06-11	--	--	--	--	--	--	--	--	1060
	80-08-21	.53	2.2	--	--	--	190	<10	1	1060
B-20-14 19BDB	80-06-02	--	--	--	--	--	--	--	--	1060
B-20-14 21ACA2	80-06-02	--	--	--	--	--	--	--	--	1060
B-20-14 33BDA	80-06-02	--	--	--	--	--	--	--	--	1060
B-21-07 07WDDA	80-07-08	--	--	--	--	--	--	--	--	1060
B-21-08 36CBC	80-07-08	--	--	--	--	--	--	--	--	1060
B-21-10 17CCD2	80-07-08	--	--	--	--	--	--	--	--	1060
B-21-10 29ACB	80-07-08	--	--	--	--	--	--	--	--	1060
B-21-10 33DBA	80-08-06	--	--	--	--	--	--	--	--	1060
B-21-13 10CCA	80-07-09	--	--	--	--	--	--	--	--	1060
B-21-13 24BCD	80-06-12	--	--	--	--	--	--	--	--	1060
B-21-13 30DCB	80-08-22	2.45	.02	--	--	--	2100	60	20	1060
B-21-13 31DAA	80-03-05	--	--	--	--	--	--	--	--	1060
B-21-14 24DAC	80-03-18	--	--	--	--	--	--	--	--	1060
	80-08-22	.38	1.5	--	--	--	100	<10	2	1060
B-22-08 21AAB	80-07-15	--	--	--	--	--	--	--	--	1060
B-22-10 08BCB	80-07-10	--	--	--	--	--	--	--	--	1060
B-22-13 34ADD2	80-03-24	--	--	--	--	--	--	--	--	1060
	80-05-19	.40	1.3	--	11	--	120	<10	<3	1060
B-23-09 01BCC2	80-07-16	--	--	--	--	--	--	--	--	1060
B-23-10 14DCD	80-07-16	--	--	--	--	--	--	--	--	1060
BILL WILLIAMS										
B-09-09 04CBC	80-04-02	.34	--	--	--	--	80	20	6	1070
B-10-08 16DBB2	80-04-02	.31	--	--	--	--	150	330	5	1070
B-10-12 12CCC	80-04-10	.41	--	--	--	--	100	30	4	1070
B-10-14 23BAC	80-04-03	1.13	--	--	--	--	670	<10	<1	1070
B-11-05 24DAB3	80-04-11	.32	--	--	--	--	20	10	1	1070
B-11-05 25DBD	80-04-11	--	--	--	--	--	--	--	--	1070
B-11-06 08BCA	79-10-23	--	--	--	--	--	--	--	--	1070
B-11-06 10CBB	79-10-23	--	--	--	--	--	--	--	--	1070
B-11-06 29DAB	79-10-17	--	--	--	--	--	--	--	--	1070
B-11-06 29DBA	79-10-17	--	--	--	--	--	--	--	--	1070

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
BILL WILLIAMS--CONTINUED										
B-11-06E09CAC	GW	79-10-23	1000	--	23.5	--	--	--	--	--
B-11-11 17ACA2	GW	80-04-10	507	7.4	16.0	170	0	45	13	43
B-11-13 14AAA	GW	79-12-14	500	--	25.5	--	--	--	--	--
B-11-16 29DAC	GW	80-04-03	1105	7.3	23.0	300	84	82	24	120
B-12-04 06AD UNSRV	GW	80-04-11	629	--	22.0	--	--	--	--	--
B-12-05 02ABA1	GW	80-04-11	450	7.2	--	200	17	54	15	22
B-12-06E06BDA	GW	79-10-24	580	--	--	--	--	--	--	--
B-12-06W19ABA	GW	79-10-19	790	--	22.5	--	--	--	--	--
B-12-06W31ADD	GW	79-10-18	483	--	--	--	--	--	--	--
B-12-07 04BCC	SP	79-10-18	433	--	18.0	--	--	--	--	--
B-12-07 09ADA	SP	79-10-18	747	--	23.5	--	--	--	--	--
B-12-07 11BCA	SP	79-10-18	325	--	20.5	--	--	--	--	--
B-12-07 11DAD	GW	79-10-18	941	--	18.5	--	--	--	--	--
B-12-07 25ADA	GW	79-10-18	528	--	--	--	--	--	--	--
B-12-07 35DDB	GW	79-10-23	645	--	--	--	--	--	--	--
B-12-09 22BDD2	GW	80-04-04	1100	7.3	18.0	380	110	88	38	99
B-12-13 28ADD	GW	79-12-12	1790	--	27.5	--	--	--	--	--
B-12-14 05BDA2	GW	79-12-12	1400	--	22.0	--	--	--	--	--
B-12-16 10DAB	GW	80-03-28	385	--	23.0	96	0	35	2.1	50
B-13-05 21B UNSURV	GW	79-10-11	925	--	--	--	--	--	--	--
B-13-06 09ACB2	GW	79-10-12	965	--	17.0	--	--	--	--	--
B-13-06 09ACC2	GW	79-10-12	1000	--	--	--	--	--	--	--
B-13-06 09DCA	GW	79-10-11	858	--	--	--	--	--	--	--
B-13-06 10CCB	GW	79-10-18	985	--	16.0	--	--	--	--	--
B-13-06 16ABA2	GW	79-10-11	1040	--	--	--	--	--	--	--
B-13-06 16ABB	GW	79-10-11	1930	--	21.0	--	--	--	--	--
B-13-06 29ACA	GW	80-04-11	594	--	17.0	--	--	--	--	--
B-13-06 30ABA	GW	79-10-11	761	--	--	--	--	--	--	--
B-13-06 31ACD	GW	79-10-11	689	--	--	--	--	--	--	--
B-13-06 31BBD	GW	79-10-11	750	--	20.5	--	--	--	--	--
B-13-06 32CBA	GW	79-10-11	618	--	--	--	--	--	--	--
B-13-07 18CCA	GW	79-10-24	797	--	--	--	--	--	--	--
B-13-07 21ACB	GW	79-10-24	1300	--	--	--	--	--	--	--
B-13-07 24BBA	SP	79-10-18	987	--	17.0	--	--	--	--	--
B-13-07 24BBD	GW	79-10-18	820	--	20.5	--	--	--	--	--
B-13-13 03BBC	GW	79-11-20	1240	--	--	--	--	--	--	--
B-13-13 03BBD	GW	79-11-20	1550	--	--	--	--	--	--	--
B-13-13 17AAC	SP	79-12-13	840	--	16.5	--	--	--	--	--
B-13-13 17AAD	SP	79-12-13	532	--	24.5	--	--	--	--	--
	SP	80-04-04	518	7.7	25.0	120	0	34	8.1	68
B-13-14 08AAA	GW	80-04-04	366	9.2	--	110	27	22	14	33
B-13-14 14DDA	GW	79-12-13	475	--	--	--	--	--	--	--
B-13-16 26DBC	GW	80-03-28	580	--	22.0	230	35	80	8.5	24
B-13-17 13CCA	GW	80-03-28	360	--	22.0	120	0	35	7.8	23
B-14-04 22CCB2	GW	80-04-11	480	7.4	16.5	210	32	65	12	18
B-14-06 08DDD	GW	79-10-12	850	--	--	--	--	--	--	--
B-14-06 16CBA	GW	79-10-12	2100	--	--	--	--	--	--	--
B-14-06 22DCB	SP	79-10-12	459	--	18.0	--	--	--	--	--
B-14-06 31DAD	GW	79-10-10	907	--	--	--	--	--	--	--
B-14-06 33DCC	GW	79-10-12	534	--	--	--	--	--	--	--
B-14-07 25DCB	GW	79-10-10	828	--	--	--	--	--	--	--
B-14-07 25DCB	SP	79-10-10	1080	--	22.0	--	--	--	--	--
B-14-07 25DDB	SP	79-10-11	973	--	16.5	--	--	--	--	--
B-14-07 27BDC	GW	79-10-11	1110	--	21.5	--	--	--	--	--
	GW	80-03-25	1100	7.3	20.0	220	0	45	26	150
B-14-09 02ADC	GW	79-11-08	726	--	--	--	--	--	--	--
B-14-11 19CDA2UNSURV	GW	80-03-27	1150	7.6	23.0	380	120	82	42	84
B-14-12 10DDB	SP	80-08-20	1210	7.4	37.0	48	0	18	.7	260
B-14-13 13BAD	GW	79-11-21	1840	--	--	--	--	--	--	--
B-14-14 34BBA	GW	80-04-10	1770	8.1	--	430	220	100	44	220
B-14H08 29CCD	GW	79-11-09	500	--	--	--	--	--	--	--
B-15-09 01BDB	GW	79-11-08	388	--	26.0	--	--	--	--	--
B-15-09 24AAA3	GW	79-11-08	478	--	--	--	--	--	--	--
B-15-10 26DBD UNSURV	GW	80-03-27	700	7.5	22.0	8	0	2.5	.4	160
B-17-11 04DDD3	GW	80-04-24	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
BILL WILLIAMS--CONTINUED										
B-11-06E09CAC	79-10-23	--	--	--	--	--	--	1.2	--	--
B-11-11 17ACA2	80-04-10	1.5	2.6	--	--	41	27	.9	27	302
B-11-13 14AAA	79-12-14	--	--	--	--	--	--	3.5	--	--
B-11-16 29DAC	80-04-03	3.0	7.7	--	--	130	140	1.2	39	677
B-12-04 06AD UNSRV	80-04-11	--	--	--	--	--	--	.9	--	--
B-12-05 02ABA1	80-04-11	.7	2.1	--	--	22	12	.3	38	274
B-12-06E06BDA	79-10-24	--	--	--	--	--	--	1.7	--	--
B-12-06N19ABA	79-10-19	--	--	--	--	--	--	.9	--	--
B-12-06N31ADD	79-10-18	--	--	--	--	--	--	1.0	--	--
B-12-07 04BCC	79-10-18	--	--	--	--	--	--	2.5	--	--
B-12-07 09ADA	79-10-18	--	--	--	--	--	--	3.7	--	--
B-12-07 11BCA	79-10-18	--	--	--	--	--	--	2.1	--	--
B-12-07 11DAD	79-10-18	--	--	--	--	--	--	2.1	--	--
B-12-07 25ADA	79-10-18	--	--	--	--	--	--	1.0	--	--
B-12-07 35DDB	79-10-23	--	--	--	--	--	--	.8	--	--
B-12-09 22BDD2	80-04-04	2.2	4.6	--	--	100	86	2.1	62	645
B-12-13 28ADD	79-12-12	--	--	--	--	--	--	3.2	--	--
B-12-14 05BDA2	79-12-12	--	--	--	--	--	--	2.6	--	--
B-12-16 10DAB	80-03-28	2.2	3.6	--	--	17	19	1.9	32	245
B-13-05 21B UNSURV	79-10-11	--	--	--	--	--	--	2.2	--	--
B-13-06 09ACB2	79-10-12	--	--	--	--	--	--	1.6	--	--
B-13-06 09ACC2	79-10-12	--	--	--	--	--	--	2.5	--	--
B-13-06 09DCA	79-10-11	--	--	--	--	--	--	1.7	--	--
B-13-06 10CCB	79-10-18	--	--	--	--	--	--	2.9	--	--
B-13-06 16ABA2	79-10-11	--	--	--	--	--	--	3.5	--	--
B-13-06 16ABB	79-10-11	--	--	--	--	--	--	18	--	--
B-13-06 29ACA	80-04-11	--	--	--	--	--	--	1.9	--	--
B-13-06 30ABA	79-10-11	--	--	--	--	--	--	2.8	--	--
B-13-06 31ACD	79-10-11	--	--	--	--	--	--	1.8	--	--
B-13-06 31BBD	79-10-11	--	--	--	--	--	--	2.9	--	--
B-13-06 32CBA	79-10-11	--	--	--	--	--	--	1.2	--	--
B-13-07 18DCA	79-10-24	--	--	--	--	--	--	2.1	--	--
B-13-07 21ACB	79-10-24	--	--	--	--	--	--	11	--	--
B-13-07 24BBA	79-10-18	--	--	--	--	--	--	3.0	--	--
B-13-07 24BBD	79-10-18	--	--	--	--	--	--	2.6	--	--
B-13-13 03BBC	79-11-20	--	--	--	--	--	--	7.0	--	--
B-13-13 05BBD	79-11-20	--	--	--	--	--	--	11	--	--
B-13-13 17AAC	79-12-13	--	--	--	--	--	--	4.0	--	--
B-13-15 17AAD	79-12-13	--	--	--	--	--	--	2.0	--	--
	80-04-04	2.7	5.0	--	--	26	13	2.5	37	290
B-13-14 08AAA	80-04-04	1.4	2.9	--	--	25	37	1.5	28	215
B-13-14 14DDA	79-12-13	--	--	--	--	--	--	1.7	--	--
B-13-16 26DBC	80-03-28	.7	5.6	--	--	40	25	.6	39	343
B-13-17 13CCA	80-03-28	.9	5.2	--	--	7.0	4.9	.7	36	204
B-14-04 22CCB2	80-04-11	.5	1.2	--	--	19	15	.3	34	273
B-14-06 08DDD	79-10-12	--	--	--	--	--	--	6.2	--	--
B-14-06 16CBA	79-10-12	--	--	--	--	--	--	10	--	--
B-14-06 22DCB	79-10-12	--	--	--	--	--	--	1.0	--	--
B-14-06 31DAD	79-10-10	--	--	--	--	--	--	4.6	--	--
B-14-06 33DCC	79-10-12	--	--	--	--	--	--	2.0	--	--
B-14-07 25DCB	79-10-10	--	--	--	--	--	--	5.5	--	--
B-14-07 25DCB	79-10-10	--	--	--	--	--	--	6.8	--	--
B-14-07 25DDB	79-10-11	--	--	--	--	--	--	5.0	--	--
B-14-07 27BDC	79-10-11	--	--	--	--	--	--	4.2	--	--
	80-03-25	4.4	4.8	--	--	120	62	4.1	49	654
B-14-09 02ADC	79-11-08	--	--	--	--	--	--	1.2	--	--
B-14-11 19CDA2UNSURV	80-03-27	1.9	10	--	--	160	90	.8	50	676
B-14-12 10DDB	80-08-20	16	9.8	--	--	97	68	.9	51	747
B-14-13 13BAD	79-11-21	--	--	--	--	--	--	1.2	--	--
B-14-14 34BBA	80-04-10	4.6	5.6	--	--	260	280	2.6	27	1070
B-14H08 29CCD	79-11-09	--	--	--	--	--	--	.6	--	--
B-15-09 01BDB	79-11-08	--	--	--	--	--	--	.5	--	--
B-15-09 24AAA3	79-11-08	--	--	--	--	--	--	3.2	--	--
B-15-10 26DBD UNSURV	80-03-27	25	5.3	--	--	38	35	2.9	27	434
B-17-11 04DDD3	80-04-24	--	--	--	--	--	--	2.2	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SAMPLE NUMBER
BILL WILLIAMS--CONTINUED										
B-11-06E09CAC	79-10-23	--	--	--	--	--	--	--	--	1070
B-11-11 17ACA2	80-04-10	.41	--	--	--	--	80	<10	5	1070
B-11-13 14AAA	79-12-14	--	--	--	--	--	--	--	--	1070
B-11-16 29DAC	80-04-03	.92	--	--	--	--	370	<10	<1	1070
B-12-04 06AD UNSRV	80-04-11	--	--	--	--	--	--	--	--	1070
B-12-05 02ABA1	80-04-11	.37	--	--	--	--	50	<10	<1	1070
B-12-06E06BDA	79-10-24	--	--	--	--	--	--	--	--	1070
B-12-06W19ABA	79-10-19	--	--	--	--	--	--	--	--	1070
B-12-06W31ADD	79-10-18	--	--	--	--	--	--	--	--	1070
B-12-07 04BCC	79-10-18	--	--	--	--	--	--	--	--	1070
B-12-07 09ADA	79-10-18	--	--	--	--	--	--	--	--	1070
B-12-07 11BCA	79-10-18	--	--	--	--	--	--	--	--	1070
B-12-07 11DAD	79-10-18	--	--	--	--	--	--	--	--	1070
B-12-07 25ADA	79-10-18	--	--	--	--	--	--	--	--	1070
B-12-07 35DDB	79-10-23	--	--	--	--	--	--	--	--	1070
B-12-09 22BDD2	80-04-04	.87	--	--	--	--	340	<10	270	1070
B-12-13 28ADD	79-12-12	--	--	--	--	--	--	--	--	1070
B-12-14 05BDA2	79-12-12	--	--	--	--	--	--	--	--	1070
B-12-16 10DAB	80-05-28	.33	--	--	--	--	140	20	8	1070
B-13-05 21B UNSURV	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-06 09ACB2	79-10-12	--	--	--	--	--	--	--	--	1070
B-13-06 09ACC2	79-10-12	--	--	--	--	--	--	--	--	1070
B-13-06 09DCA	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-06 10CCB	79-10-18	--	--	--	--	--	--	--	--	1070
B-13-06 16ABA2	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-06 16ABB	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-06 29ACA	80-04-11	--	--	--	--	--	--	--	--	1070
B-13-06 30ABA	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-06 31ACD	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-06 31BBD	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-06 32CBA	79-10-11	--	--	--	--	--	--	--	--	1070
B-13-07 18CCA	79-10-24	--	--	--	--	--	--	--	--	1070
B-13-07 21ACB	79-10-24	--	--	--	--	--	--	--	--	1070
B-13-07 24BBA	79-10-18	--	--	--	--	--	--	--	--	1070
B-13-07 24BBD	79-10-18	--	--	--	--	--	--	--	--	1070
B-13-13 03BBC	79-11-20	--	--	--	--	--	--	--	--	1070
B-13-13 03BBD	79-11-20	--	--	--	--	--	--	--	--	1070
B-13-13 17AAC	79-12-13	--	--	--	--	--	--	--	--	1070
B-13-13 17AAD	79-12-13	--	--	--	--	--	--	--	--	1070
	80-04-04	.39	--	--	--	--	200	0	0	1070
B-13-14 08AAA	80-04-04	.29	--	--	--	--	100	<10	<1	1070
B-13-14 14DDA	79-12-13	--	--	--	--	--	--	--	--	1070
B-13-16 26DBC	80-03-28	.47	--	--	--	--	170	<10	2	1070
B-13-17 13CCA	80-03-28	.28	--	--	--	--	60	<10	3	1070
B-14-04 22CCB2	80-04-11	.37	--	--	--	--	30	<10	1	1070
B-14-06 08DDD	79-10-12	--	--	--	--	--	--	--	--	1070
B-14-06 16CBA	79-10-12	--	--	--	--	--	--	--	--	1070
B-14-06 22DCB	79-10-12	--	--	--	--	--	--	--	--	1070
B-14-06 31DAD	79-10-10	--	--	--	--	--	--	--	--	1070
B-14-06 33DCC	79-10-12	--	--	--	--	--	--	--	--	1070
B-14-07 25DCB	79-10-10	--	--	--	--	--	--	--	--	1070
B-14-07 25DCB	79-10-10	--	--	--	--	--	--	--	--	1070
B-14-07 25DDB	79-10-11	--	--	--	--	--	--	--	--	1070
B-14-07 27BDC	79-10-11	--	--	--	--	--	--	--	--	1070
	80-03-25	.89	--	--	--	--	290	<10	<1	1070
B-14-09 02ADC	79-11-08	--	--	--	--	--	--	--	--	1070
B-14-11 19CDA2 UNSURV	80-03-27	.92	--	--	--	--	500	<10	10	1070
B-14-12 10DDB	80-08-20	1.02	.08	--	--	--	1100	<10	<1	1070
B-14-13 13BAD	79-11-21	--	--	--	--	--	--	--	--	1070
B-14-14 34BBA	80-04-10	1.46	--	--	--	--	490	<10	<1	1070
B-14H08 29CCD	79-11-09	--	--	--	--	--	--	--	--	1070
B-15-09 01BDB	79-11-08	--	--	--	--	--	--	--	--	1070
B-15-09 24AAA3	79-11-08	--	--	--	--	--	--	--	--	1070
B-15-10 26DBD UNSURV	80-03-27	.59	--	--	95	--	260	160	20	1070
B-17-11 04DDD3	80-04-24	--	--	--	--	--	--	--	--	1070

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	STIF	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
BLACK MESA										
PEABODY 2 0803909441718	GW	80-08-19	225	7.7	30.5	23	0	8.5	.5	39
PEABODY 3 0405607110413	GW	80-08-19	250	9.1	32.0	9	0	3.4	.1	50
PEABODY 4 0405609000373	GW	80-08-19	250	9.1	32.0	12	0	4.6	.1	44
PEABODY 5 0405608110115	GW	80-08-19	210	9.1	32.0	12	0	4.5	.1	42
PEABODY 6 0803906681711	GW	80-08-19	260	8.9	32.0	10	0	4.0	.0	50
PEABODY 7 0405608800585	GW	80-08-19	210	9.1	33.5	10	0	4.0	.0	38
PEABODY 8 0803909261434	GW	80-08-19	420	7.9	30.0	66	0	22	2.8	61
BUTLER VALLEY										
B-07-15 02DDC	GW	80-08-21	--	8.0	29.0	29	0	9.2	1.5	110
B-07-15 11DDD	GW	80-08-21	--	7.7	29.0	80	0	27	3.1	120
B-07-15 12AAD	GW	80-08-20	--	7.7	29.0	28	0	9.8	.9	110
B-07-15 12DAD	GW	80-08-20	--	7.8	30.5	98	8	33	3.2	130
B-08-14 36BBB	GW	80-08-20	--	7.7	35.0	150	36	40	11	80
COLORADO RIVER HOOVER DAM TO IMPERIAL DAM										
B-03-19 29ABC	GW	80-08-22	--	7.6	29.0	130	0	41	6.0	40
B-03-19 29BCC1	GW	80-08-23	--	7.3	29.0	150	0	51	5.8	17
B-04-19 21CDA	GW	80-08-23	--	7.0	28.0	280	77	91	12	16
B-04-19 21DAB	GW	80-08-22	--	8.0	29.0	340	270	110	16	14
B-04-19 26BAA	GW	80-08-22	--	7.6	29.0	100	0	29	7.1	120
B-04-19 27AAC	GW	80-08-23	--	7.3	29.5	200	68	59	12	72
B-04-19 27BAD	GW	80-08-22	--	7.4	28.0	160	0	46	11	66
B-04-19 28CCB	GW	80-08-23	--	6.9	30.0	270	73	89	12	13
B-08-18 34DCB	GW	80-08-21	--	7.1	28.0	200	8	69	5.9	15
B-09-19-7CCB1	GW	80-05-28	--	--	--	--	--	--	--	--
CONCHO										
A-12-26 02BDA	GW	80-04-29	673	8.2	19.0	150	0	26	20	93
	GW	80-09-24	690	7.8	17.0	120	0	19	17	96
A-12-26 19ABA	SP	80-04-28	200	8.1	14.0	65	0	13	7.9	7.3
	SP	80-09-22	155	7.9	17.0	65	0	13	8.0	7.0
A-13-24 22BBD	GW	80-04-28	528	7.6	16.0	230	76	61	18	15
	GW	80-09-22	500	7.7	18.0	230	68	60	19	15
A-13-26 12DDA	GW	80-04-30	1970	7.7	14.0	400	180	58	62	240
	GW	80-09-24	2900	7.7	17.0	770	530	110	120	350
A-14-24 29DCC	GW	80-04-28	895	7.6	18.0	420	260	120	30	40
	GW	80-09-22	630	7.5	19.0	260	110	66	24	24
A-14-25 14CCD	GW	80-04-30	698	7.4	15.0	270	100	67	26	34
A-14-26 10CDC	SP	80-04-30	3760	6.8	15.5	1000	560	270	90	450
A-14-26 21BCC	GW	80-04-30	755	7.4	17.0	160	0	45	11	100
	GW	80-09-24	850	7.2	18.0	150	2	41	12	110
GILA BEND BASIN										
C-05-04 18DDC	GW	80-03-25	--	8.0	29.0	250	160	90	5.0	600
C-05-06 16DDD	GW	80-03-24	--	--	--	2107	--	550	175	1600
	GW	80-03-24	--	7.2	26.5	2100	2000	550	175	1600
C-05-06 34CCD	GW	80-03-24	--	--	--	831	--	275	35	1100
	GW	80-03-24	--	--	26.5	830	730	275	35	1100
C-06-03 19ABD	GW	80-01-25	--	--	--	170	--	60	5.0	275
C-06-06 04DDC	GW	80-03-24	--	--	--	113	--	40	3.0	308
	GW	80-03-24	--	8.0	33.0	110	81	40	3.0	308
GILA RIVER FROM HEAD OF SAN CARLOS RESERVOIR TO KELVIN										
D-04-14-35ACC	GW	80-04-03	--	7.8	24.0	190	30	46	18	140
D-04-14-35BDD	GW	80-04-03	--	7.9	29.0	230	120	60	19	210

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
BLACK MESA										
PEABODY 2 0803909441718	80-08-19	3.5	.7	--	--	20	11	.2	21	145
PEABODY 3 0405607110413	80-08-19	7.3	.7	--	--	14	3.5	.4	20	150
PEABODY 4 0405609000373	80-08-19	5.6	.7	--	--	13	4.3	.2	21	143
PEABODY 5 0405608110115	80-08-19	5.4	.8	--	--	9.5	2.9	.2	21	135
PEABODY 6 0803906681711	80-08-19	6.9	.8	--	--	15	3.5	.3	20	157
PEABODY 7 0405608800585	80-08-19	5.2	.7	--	--	11	3.7	.2	20	126
PEABODY 8 0803909261434	80-08-19	3.3	2.8	--	--	100	4.8	.2	19	270
BUTLER VALLEY										
B-07-15 02DDC	80-08-21	8.9	3.6	--	--	60	51	6.6	18	346
B-07-15 11DDD	80-08-21	5.8	5.6	--	--	69	130	1.8	27	456
B-07-15 12AAD	80-08-20	9.0	3.6	--	--	77	53	3.9	18	351
B-07-15 12DAD	80-08-20	6.0	6.3	--	--	79	160	1.1	27	507
B-08-14 36BBB	80-08-20	3.1	4.6	--	--	27	140	.3	17	392
COLORADO RIVER HOOVER DAM TO IMPERIAL DAM										
B-03-19 29ABC	80-08-22	1.6	2.6	--	--	33	29	.2	29	275
B-03-19 29BCC1	80-08-23	.6	2.9	--	--	3.2	4.5	.2	31	226
B-04-19 21CDA	80-08-23	.4	2.5	--	--	8.7	49	.3	43	354
B-04-19 21DAB	80-08-22	.3	2.0	--	--	12	53	.1	40	402
B-04-19 26BAA	80-08-22	5.5	2.9	--	--	77	77	.7	23	467
B-04-19 27AAC	80-08-23	2.4	2.4	--	--	130	48	.5	27	445
B-04-19 27BAD	80-08-22	2.4	1.4	--	--	11	55	.5	47	391
B-04-19 28CCB	80-08-23	.4	2.1	--	--	8.0	13	.1	45	324
B-08-18 34DCB	80-08-21	.5	8.0	--	--	14	13	1.0	27	284
B-09-19-7CCB1	80-05-28	--	--	--	--	--	--	--	--	--
CONCHO										
A-12-26 02BDA	80-04-29	3.3	3.9	--	--	52	89	1.2	27	435
	80-09-24	3.9	4.5	--	--	48	93	1.3	8.7	384
A-12-26 19ABA	80-04-28	.4	2.6	--	--	3.5	3.2	.1	29	112
	80-09-22	.4	2.8	--	--	2.6	3.6	.2	29	116
A-13-24 22BBD	80-04-28	.4	2.5	--	--	84	14	.2	8.4	294
	80-09-22	.4	2.9	--	--	84	19	.3	13	310
A-13-26 12DDA	80-04-30	5.2	2.5	--	--	230	330	1.4	34	1100
	80-09-24	5.5	3.7	--	--	440	600	1.4	30	1810
A-14-24 29DCC	80-04-28	.8	4.1	--	--	270	56	.5	3.9	627
	80-09-22	.6	3.7	--	--	130	29	.4	11	379
A-14-25 14CCD	80-04-30	.9	4.8	--	--	120	42	.4	7.8	405
A-14-26 10CDC	80-04-30	6.1	20	--	--	600	650	2.1	10	2380
A-14-26 21BCC	80-04-30	3.5	5.6	--	--	46	120	.8	9.2	434
	80-09-24	3.9	6.8	--	--	50	150	.7	9.4	470
GILA BEND BASIN										
C-05-04 18DDC	80-03-25	17	--	100	--	176	850	--	--	--
C-05-06 16DDD	80-03-24	15	--	--	0	2350	2370	2.1	--	--
	80-03-24	15	--	146	--	2350	2370	--	--	--
C-05-06 34CCD	80-03-24	17	--	--	0	850	1500	3.0	--	--
	80-03-24	17	--	124	--	850	1500	--	--	--
C-06-03 19ABD	80-01-25	9.2	--	--	0	150	384	4.9	--	--
C-06-06 04DDC	80-03-24	13	--	--	0	164	420	5.2	--	--
	80-03-24	13	--	38	--	164	420	--	--	--
GILA RIVER FROM HEAD OF SAN CARLOS RESERVOIR TO KELVIN										
D-04-14-35ACC	80-04-03	4.8	6.7	--	--	120	200	1.3	11	650
D-04-14-35BDD	80-04-03	6.1	3.6	--	--	380	500	.8	24	1280

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	SAMPLE NUMBER
BLACK MESA										
PEABODY 2 0803909441718	80-08-19	.20	.90	--	--	--	50	250	--	1080
PEABODY 3 0405607110413	80-08-19	.21	.77	--	--	--	70	<10	--	1080
PEABODY 4 0405609000373	80-08-19	.19	.95	--	--	--	50	<10	--	1080
PEABODY 5 0405608110115	80-08-19	.18	.60	--	--	--	60	<10	--	1080
PEABODY 6 0803906681711	80-08-19	.22	.72	--	--	--	70	80	--	1080
PEABODY 7 0405608800585	80-08-19	.19	.78	--	--	--	60	10	--	1080
PEABODY 8 0803909261434	80-08-19	.38	1.5	--	--	--	70	<10	--	1080
BUTLER VALLEY										
B-07-15 02DDC	80-08-21	.47	4.4	--	8	--	270	<10	<1	1110
B-07-15 11DDD	80-08-21	.62	2.8	--	4	--	260	<10	<1	1110
B-07-15 12AAD	80-08-20	.48	3.6	--	11	--	250	<10	<1	1110
B-07-15 12DAD	80-08-20	.69	2.4	--	5	--	300	<10	<1	1110
B-08-14 36BBB	80-08-20	.53	1.1	--	2	--	130	<10	5	1110
COLORADO RIVER HOOVER DAM TO IMPERIAL DAM										
B-05-19 24ABC	80-06-22	.37	3.4	--	4	--	80	<10	<1	1160
B-03-19 24BCC1	80-08-23	.31	1.7	--	3	--	40	<10	<1	1160
B-04-19 21CDA	80-08-23	.46	2.5	--	6	--	90	<10	4	1160
B-04-19 21DAB	80-08-22	.55	26	--	4	--	80	<10	2	1160
B-04-19 26BAA	80-08-22	.64	8.6	--	7	--	360	<10	<1	1160
B-04-19 27AAC	80-08-23	.61	3.2	--	4	--	180	<10	<1	1160
B-04-19 27BAD	80-08-22	.53	1.0	--	14	--	130	<10	<1	1160
B-04-19 28CCB	80-08-23	.44	4.5	--	5	--	50	<10	<1	1160
B-06-18 34DCB	80-08-21	.39	3.5	--	3	--	60	<10	3	1160
B-09-19-7CCB1	80-05-28	--	--	--	4	--	--	--	--	1160
CONCHO										
A-12-26 02BDA	80-04-29	.59	4.6	--	--	--	260	<10	4	1170
	80-09-24	.52	.00	--	--	--	240	20	10	1170
A-12-26 19ABA	80-04-28	.15	.45	--	--	--	10	<10	<1	1170
	80-09-22	.16	.61	--	--	--	4	<10	<1	1170
A-13-24 22BBD	80-04-28	.40	.01	--	--	--	20	380	10	1170
	80-09-22	.42	.00	--	--	--	20	430	10	1170
A-13-26 12DDA	80-04-30	1.50	3.2	--	--	--	440	40	4	1170
	80-09-24	2.46	2.5	--	--	--	360	30	50	1170
A-14-24 29DCC	80-04-28	.85	1.2	--	--	--	100	610	30	1170
	80-09-22	.52	.00	--	--	--	50	680	30	1170
A-14-25 14CCD	80-04-30	.55	.10	--	--	--	70	130	20	1170
A-14-26 10CDC	80-04-30	3.24	.06	--	--	--	640	100	110	1420
A-14-26 21BCC	80-04-30	.59	.01	--	--	--	120	240	30	1170
	80-09-24	.64	.00	--	--	--	6	100	30	1170
GILA BEND BASIN										
C-05-04 18DDC	80-03-25	--	--	--	--	--	--	--	--	1200
C-05-06 16DDD	80-03-24	--	--	0	--	--	--	--	--	1200
	80-03-24	--	--	--	--	--	--	--	--	1200
C-05-06 34CCD	80-03-24	--	--	0	--	--	--	--	--	1200
	80-03-24	--	--	--	--	--	--	--	--	1200
C-06-03 19ABD	80-01-25	--	--	0	--	--	--	--	--	1200
C-06-06 04DDC	80-03-24	--	--	0	--	--	--	--	--	1200
	80-03-24	--	--	--	--	--	--	--	--	1200
GILA RIVER FROM HEAD OF SAN CARLOS RESERVOIR TO KELVIN										
D-04-14-35ACC	80-04-03	.86	2.2	--	1	--	400	<10	<1	1220
D-04-14-35BDD	80-04-03	1.74	4.4	--	1	--	420	20	20	1220

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
GILA RIVER FROM TEXAS HILL TO DOME										
C-09-18 08BCA	GW	79-10-19	4120	--	27.0	400	260	110	30	760
C-09-18 11BBB	GW	79-10-19	3240	--	27.5	280	250	95	11	560
C-09-18 19CBD	GW	79-10-18	5060	--	27.0	620	560	170	48	860
C-09-18 19CDB	GW	79-10-18	5060	--	27.0	620	560	170	48	860
C-09-18 20CBA	GW	79-10-18	3890	--	26.5	390	330	120	23	640
C-09-18 20CBB	GW	79-10-18	4300	--	26.5	450	380	130	30	710
C-09-19 06DDB1	GW	79-10-19	9990	--	--	950	700	220	97	1900
C-09-19 24DAD	GW	79-10-05	4880	7.7	--	670	620	190	47	820
GRAND WASH										
B-33-15 09BCA	SP	80-03-12	--	--	--	--	--	--	--	--
	SP	80-03-12	5290	--	13.5	1700	1600	480	130	570
B-33-15 09BDA	SP	80-03-12	11540	--	--	--	--	--	--	--
	SP	80-03-12	17800	--	--	4400	4200	440	790	1600
B-33-15 18ADB	SP	80-03-12	9000	--	13.0	3500	3200	470	570	1100
B-33-16 04DDD	SP	80-03-12	9450	--	16.0	1300	1300	350	110	1600
B-33-16 13DBD	SP	80-02-05	--	--	25.0	210	75	48	23	26
B-33-16 34ACA	SP	80-03-12	1820	--	14.5	720	460	170	71	140
B-33-16 34ADD	SP	80-03-12	990	--	17.5	330	160	65	41	79
B-34-16 26CDB	SP	80-02-06	--	--	22.0	220	80	47	25	19
B-34-16 35BDC	SP	80-02-06	--	--	17.0	300	98	73	28	26
HARQUAHALA PLAINS										
B-01-08 06AAA	GW	80-04-08	1120	--	33.0	--	--	--	--	--
B-01-08 06ADD	GW	80-04-09	1080	--	33.0	--	--	--	--	--
B-01-08 19BBB	GW	80-04-09	1100	--	31.5	--	--	--	--	--
B-01-08 31CCC	GW	80-08-13	--	8.3	31.0	55	0	12	5.9	250
B-01-09 02BAA	GW	80-04-15	835	--	38.0	--	--	--	--	--
B-01-09 02CAA	GW	80-04-15	1030	--	--	--	--	--	--	--
B-01-09 06CCC2	GW	80-04-15	2100	--	--	--	--	--	--	--
B-01-09 11BBB2	GW	80-04-15	1450	--	--	--	--	--	--	--
B-01-09 12CBB	GW	80-04-15	1110	--	--	--	--	--	--	--
B-01-09 13BBB	GW	80-04-09	780	--	30.0	--	--	--	--	--
B-01-09 17CAB	GW	80-04-15	1090	--	--	--	--	--	--	--
B-01-09 17DBB	GW	80-04-15	2750	--	--	--	--	--	--	--
B-01-09 17DCC	GW	80-04-15	3900	--	--	--	--	--	--	--
	GW	80-08-14	--	7.9	33.0	130	0	23	17	410
B-01-09 18BCC	GW	80-04-15	1090	--	--	--	--	--	--	--
B-01-09 18CCC	GW	80-04-15	1180	--	--	--	--	--	--	--
B-01-09 20BBB	GW	80-04-15	1100	--	36.0	--	--	--	--	--
B-01-09 20BDC	GW	80-04-09	1060	--	34.5	--	--	--	--	--
B-01-09 23BCC2	GW	80-04-09	3450	--	24.5	--	--	--	--	--
B-01-09 24CBB	GW	80-04-09	1550	--	28.5	--	--	--	--	--
B-01-09 25BAB	GW	80-04-09	1450	--	27.0	--	--	--	--	--
B-01-09 26CCC	GW	80-08-13	--	8.4	28.5	50	0	10	5.9	220
B-01-09 28CCC	GW	80-04-15	1090	--	--	--	--	--	--	--
B-01-09 28CDC	GW	80-04-15	1080	--	--	--	--	--	--	--
B-01-09 28DBB	GW	80-04-15	1420	--	--	--	--	--	--	--
B-01-09 28DCC	GW	80-04-15	1090	--	--	--	--	--	--	--
B-01-09 28DDD	GW	80-04-15	1190	--	--	--	--	--	--	--
B-01-09 32CCC	GW	80-04-09	1000	--	32.0	--	--	--	--	--
B-01-09 34DCC2	GW	80-04-09	1160	--	26.0	--	--	--	--	--
B-01-09 36CCC	GW	80-04-09	1240	--	30.0	--	--	--	--	--
B-01-10 01BBB	GW	80-04-15	1380	--	--	--	--	--	--	--
B-01-10 01DCC	GW	80-04-15	1130	--	--	--	--	--	--	--
B-01-10 01DDC	GW	80-04-15	1340	--	37.0	--	--	--	--	--
B-02-08 19BBB	GW	80-04-09	880	--	--	--	--	--	--	--
B-02-08 19CBB	GW	80-04-09	755	--	35.0	--	--	--	--	--
B-02-08 19DAA	GW	80-08-14	--	8.0	36.5	88	0	22	8.0	110
B-02-08 30AAA2	GW	80-04-09	730	--	35.5	--	--	--	--	--
B-02-08 31DAA	GW	80-04-09	1060	--	32.0	--	--	--	--	--
B-02-08 32BBA	GW	80-04-09	1010	--	35.0	--	--	--	--	--
B-02-09 09ABB	GW	80-04-08	1010	--	32.0	--	--	--	--	--
	GW	80-08-13	--	8.0	34.0	130	11	31	13	120
B-02-09 09DBB	GW	80-04-08	850	--	34.0	--	--	--	--	--
B-02-09 11BBB	GW	80-04-08	840	--	36.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
GILA RIVER FROM TEXAS HILL TO DOME										
C-09-18 08BCA	79-10-19	17	5.0	--	--	1000	640	3.7	33	2710
C-09-18 11BBB	79-10-19	15	6.4	--	--	530	680	5.3	17	1930
C-09-18 19CBD	79-10-18	15	8.0	--	--	840	1100	5.0	21	3110
C-09-18 19CDB	79-10-18	15	8.0	--	--	840	1100	3.0	21	3110
C-09-18 20CBA	79-10-18	14	7.6	--	--	500	870	3.4	19	2240
C-09-18 20CBB	79-10-18	15	7.2	--	--	550	970	2.9	20	2490
C-09-19 06DDB1	79-10-19	27	11	--	--	1100	2600	6.9	47	6160
C-09-19 24DAD	79-10-05	14	8.5	--	--	920	1100	2.3	23	3160
GRAND WASH										
B-33-15 09BCA	80-03-12	--	--	--	--	--	--	.1	--	--
	80-03-12	6.0	92	--	--	2400	300	.1	11	4050
B-33-15 09BDA	80-03-12	--	--	--	--	--	--	.3	--	--
	80-03-12	11	150	--	--	6600	600	.3	24	10300
B-33-15 18ADB	80-03-12	8.1	53	--	--	4300	850	.6	51	7580
B-33-16 04DDD	80-03-12	19	13	--	--	2300	2000	1.1	25	6440
B-33-16 13DBD	80-02-05	.8	3.4	--	--	110	10	.3	22	338
B-33-16 34ACA	80-03-12	2.3	12	--	--	680	64	1.4	29	1320
B-33-16 34ADD	80-03-12	1.9	10	--	--	320	22	1.2	23	664
B-34-16 26CDB	80-02-06	.6	2.7	--	--	100	8.3	.2	24	311
B-34-16 35BDC	80-02-06	.7	2.8	--	--	150	14	.3	25	445
HARQUAHALA PLAINS										
B-01-08 06AAA	80-04-08	--	--	--	--	--	--	2.5	--	--
B-01-08 06ADD	80-04-09	--	--	--	--	--	--	2.8	--	--
B-01-08 19BBB	80-04-09	--	--	--	--	--	--	2.9	--	--
B-01-08 31CCC	80-08-13	16	5.2	--	--	130	160	6.0	34	738
B-01-09 02BAA	80-04-15	--	--	--	--	--	--	1.8	--	--
B-01-09 02CAA	80-04-15	--	--	--	--	--	--	1.8	--	--
B-01-09 06CCC2	80-04-15	--	--	--	--	--	--	3.8	--	--
B-01-09 11BBB2	80-04-15	--	--	--	--	--	--	4.8	--	--
B-01-09 12CBB	80-04-15	--	--	--	--	--	--	2.0	--	--
B-01-09 13BBB	80-04-09	--	--	--	--	--	--	.8	--	--
B-01-09 17CBB	80-04-15	--	--	--	--	--	--	2.9	--	--
B-01-09 17DBB	80-04-15	--	--	--	--	--	--	3.8	--	--
B-01-09 17DCC	80-04-15	--	--	--	--	--	--	6.5	--	--
	80-08-14	18	3.2	--	--	450	240	.4	22	1340
B-01-09 18BCC	80-04-15	--	--	--	--	--	--	2.8	--	--
B-01-09 18CCC	80-04-15	--	--	--	--	--	--	2.7	--	--
B-01-09 20BBB	80-04-15	--	--	--	--	--	--	2.7	--	--
B-01-09 20BDC	80-04-09	--	--	--	--	--	--	2.7	--	--
B-01-09 23BCC2	80-04-09	--	--	--	--	--	--	6.2	--	--
B-01-09 24CBB	80-04-09	--	--	--	--	--	--	2.5	--	--
B-01-09 25BAB	80-04-09	--	--	--	--	--	--	3.1	--	--
B-01-09 26CCC	80-08-13	15	4.7	--	--	110	140	3.4	23	643
B-01-09 28CCC	80-04-15	--	--	--	--	--	--	2.7	--	--
B-01-09 28CDC	80-04-15	--	--	--	--	--	--	2.9	--	--
B-01-09 28DBB	80-04-15	--	--	--	--	--	--	2.6	--	--
B-01-09 28DCC	80-04-15	--	--	--	--	--	--	2.4	--	--
B-01-09 28DDD	80-04-15	--	--	--	--	--	--	2.7	--	--
B-01-09 32CCC	80-04-09	--	--	--	--	--	--	3.3	--	--
B-01-09 34DCC2	80-04-09	--	--	--	--	--	--	2.2	--	--
B-01-09 36CCC	80-04-09	--	--	--	--	--	--	3.4	--	--
B-01-10 01BBB	80-04-15	--	--	--	--	--	--	3.4	--	--
B-01-10 01DCC	80-04-15	--	--	--	--	--	--	4.8	--	--
B-01-10 01DDC	80-04-15	--	--	--	--	--	--	2.9	--	--
B-02-08 19BBB	80-04-09	--	--	--	--	--	--	3.1	--	--
B-02-08 19CBB	80-04-09	--	--	--	--	--	--	2.8	--	--
B-02-08 19DAA	80-08-14	5.5	4.1	--	--	76	110	2.9	35	441
B-02-08 30AAA2	80-04-09	--	--	--	--	--	--	2.8	--	--
B-02-08 31DAA	80-04-09	--	--	--	--	--	--	2.3	--	--
B-02-08 32BBA	80-04-09	--	--	--	--	--	--	2.9	--	--
B-02-09 09ABB	80-04-08	--	--	--	--	--	--	2.5	--	--
	80-08-13	5.0	3.3	--	--	160	62	1.6	34	517
B-02-09 09DBB	80-04-08	--	--	--	--	--	--	1.7	--	--
B-02-09 11BBB	80-04-08	--	--	--	--	--	--	1.3	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	SAMPLE NUMBER
GILA RIVER FROM TEXAS HILL TO DOME										
C-09-18 08BCA	79-10-19	3.69	9.9	--	--	--	2000	30	0	1230
C-09-18 11BBB	79-10-19	2.62	1.5	--	--	--	2800	20	0	1230
C-09-18 19CBD	79-10-18	4.23	4.8	--	--	--	2000	10	0	1230
C-09-18 19CDB	79-10-18	4.23	4.8	--	--	--	2000	10	0	1230
C-09-18 20CBA	79-10-18	3.05	4.9	--	--	--	1700	10	0	1230
C-09-18 20CBB	79-10-18	3.39	6.8	--	--	--	1700	20	20	1230
C-09-19 06DDB1	79-10-19	8.38	4.4	--	--	--	4100	30	10	1230
C-09-19 24DAD	79-10-05	4.35	3.1	--	--	--	1900	20	--	1230
GRAND WASH										
B-33-15 09BCA	80-03-12	--	--	--	--	--	--	--	--	1240
	80-03-12	5.51	--	--	--	--	7700	60	10	1240
B-33-15 09BDA	80-03-12	--	--	--	--	--	--	--	--	1240
	80-03-12	14.0	--	--	--	--	24000	60	20	1240
B-33-15 18ADB	80-03-12	10.3	--	--	--	--	5500	50	30	1240
B-33-16 04DDD	80-03-12	8.76	--	--	--	--	850	50	10	1240
B-33-16 15DBD	80-02-05	.46	2.4	--	--	--	100	<10	<1	1240
B-33-16 34ACA	80-03-12	1.80	--	--	--	--	390	10	<1	1240
B-33-16 34ADD	80-03-12	.90	--	--	--	--	320	10	<1	1240
B-34-16 26CDB	80-02-06	.42	.13	--	--	--	60	<10	<1	1240
B-34-16 35BDC	80-02-06	.61	1.2	--	--	--	80	<10	<1	1240
HARQUAHALA PLAINS										
B-01-08 06AAA	80-04-08	--	--	--	--	--	--	--	--	1250
B-01-08 06ADD	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-08 19BBB	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-08 31CCC	80-08-13	1.00	4.3	--	25	--	650	<10	7	1250
B-01-09 02BAA	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 02CAA	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 06CCC2	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 11BBB2	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 12CBB	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 13BBB	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-09 17CBB	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 17DBB	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 17DCC	80-04-15	--	--	--	--	--	--	--	--	1250
	80-08-14	1.82	6.5	--	9	--	1200	<10	<1	1250
B-01-09 18BCC	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 18CCC	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 20BBB	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 20BDC	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-09 23BCC2	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-09 24CBB	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-09 25BAB	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-09 26CCC	80-08-13	.87	3.9	--	9	--	490	<10	<1	1250
B-01-09 28CCC	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 28CDC	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 28DBB	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 28DCC	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 28DDD	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-09 32CCC	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-09 34DCC2	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-09 36CCC	80-04-09	--	--	--	--	--	--	--	--	1250
B-01-10 01BBB	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-10 01DCC	80-04-15	--	--	--	--	--	--	--	--	1250
B-01-10 01DDC	80-04-15	--	--	--	--	--	--	--	--	1250
B-02-08 19BBB	80-04-09	--	--	--	--	--	--	--	--	1250
B-02-08 19CBB	80-04-09	--	--	--	--	--	--	--	--	1250
B-02-08 19DAA	80-08-14	.60	3.1	--	26	--	390	11	2	1250
B-02-08 30AAA2	80-04-09	--	--	--	--	--	--	--	--	1250
B-02-08 31DAA	80-04-09	--	--	--	--	--	--	--	--	1250
B-02-08 32BBA	80-04-09	--	--	--	--	--	--	--	--	1250
B-02-09 09ABB	80-04-08	--	--	--	--	--	--	--	--	1250
	80-08-13	.70	4.4	--	9	--	290	<10	3	1250
B-02-09 09DBB	80-04-08	--	--	--	--	--	--	--	--	1250
B-02-09 11BBB	80-04-08	--	--	--	--	--	--	--	--	1250

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
HARQUAHALA PLAINS--CONTINUED										
	GW	80-08-12	--	7.8	36.0	150	55	33	17	110
B-02-09 11CBB	GW	80-04-08	1300	--	33.0	--	--	--	--	--
B-02-09 14BAB	GW	80-04-08	1060	--	33.0	--	--	--	--	--
B-02-09 14BBB	GW	79-12-11	3700	7.7	--	550	470	189	20	710
B-02-09 24BAB	GW	80-08-14	--	7.6	33.0	130	--	30	13	130
B-02-09 26BCC	GW	80-04-09	745	--	31.5	--	--	--	--	--
B-02-09 36BBB	GW	80-04-09	760	--	33.0	--	--	--	--	--
B-02-10 17DAC	GW	80-08-14	--	7.7	28.0	110	--	22	14	190
B-02-11 02BB	GW	80-04-15	1020	--	--	--	--	--	--	--
B-02-12 02ODA	GW	80-02-25	1820	--	--	130	13	31	12	305
B-03-10 31CBB	GW	80-04-15	1090	--	--	--	--	--	--	--
B-03-11 08CAC	GW	80-04-08	950	--	--	--	--	--	--	--
	GW	80-08-12	--	7.6	29.5	120	0	22	16	170
B-03-11 22CCB	GW	80-04-08	975	--	25.5	--	--	--	--	--
B-03-11 34BBB	GW	80-08-12	--	7.8	31.0	95	0	18	12	190
B-03-11 34BCC	GW	80-04-15	1030	--	--	--	--	--	--	--
B-03-11 36BBB	GW	80-04-08	1030	--	21.0	--	--	--	--	--
B-03-11 36CBB	GW	80-04-15	995	--	--	--	--	--	--	--
	GW	80-08-12	--	7.8	29.5	95	0	18	12	190
B-04-12 09ACC	GW	80-04-08	1010	--	26.5	--	--	--	--	--
B-04-12 14CBB	GW	80-04-08	2600	--	29.0	--	--	--	--	--
C-01-08 06CCC1	GW	80-08-15	--	8.1	32.0	64	0	12	8.2	230
C-01-08 06DCC	GW	80-04-15	1240	--	--	--	--	--	--	--
C-01-08 08BB	GW	80-04-15	1300	--	--	--	--	--	--	--
C-01-08 08BCB	GW	80-04-15	1360	--	--	--	--	--	--	--
C-01-08 09BBB	GW	80-08-15	--	8.1	34.0	41	0	10	3.7	240
C-01-09 01CCC	GW	80-04-09	1200	--	34.5	--	--	--	--	--
C-01-09 02CCC	GW	80-04-09	1545	--	30.5	--	--	--	--	--
C-01-09 02DCC	GW	80-04-09	1545	--	32.0	--	--	--	--	--
	GW	80-08-13	--	8.0	33.0	160	0	29	21	330
C-01-09 03CCC	GW	80-08-13	--	8.1	30.0	110	0	20	14	270
C-01-09 04CCC	GW	80-04-09	1220	--	27.0	--	--	--	--	--
C-01-09 05ACC	GW	80-08-13	--	8.1	30.0	69	0	12	9.4	250
C-01-09 11CCC	GW	80-04-09	1040	--	34.5	--	--	--	--	--
HUALAPAI VALLEY										
B-21-14 31CCC3	GW	80-05-21	1545	--	--	--	--	--	--	--
B-21-15 19DAB	GW	80-05-03	2450	--	--	--	--	--	--	--
B-21-16 24CDA	GW	80-03-11	980	--	--	--	--	--	--	--
B-22-13 09ABC	GW	80-05-19	385	7.6	23.0	120	3	23	16	25
B-22-15 12DDA1	GW	80-02-29	1300	--	--	--	--	--	--	--
B-22-16E07DAA	GW	80-03-20	930	--	--	--	--	--	--	--
B-23-12 25AAB	GW	80-09-19	960	--	15.8	--	--	--	--	--
B-23-12 30CAB	GW	80-05-19	1510	--	22.0	--	--	--	--	--
B-23-13 29AAA	GW	80-03-21	820	--	--	--	--	--	--	--
B-23-13 29DBC2	GW	80-03-21	730	--	--	--	--	--	--	--
	GW	80-05-19	750	7.4	23.0	280	36	67	26	37
B-23-15 13CDA	SP	80-03-19	925	--	--	--	--	--	--	--
B-23-16 17DDC	GW	80-03-12	1325	--	--	--	--	--	--	--
B-23-16E07BDA	GW	80-05-23	1150	--	23.0	370	220	110	23	41
B-23-17 35BDB	GW	80-05-23	2150	--	19.5	680	410	170	62	210
B-24-12 03BCD2	GW	80-04-22	480	--	23.0	--	--	--	--	--
	GW	80-05-20	480	7.7	23.0	190	39	26	30	17
B-24-13 19BBA	SP	80-09-23	850	--	--	--	--	--	--	--
B-24-13 34ADD2	GW	80-03-24	545	--	--	--	--	--	--	--
B-24-13 35DCB	GW	80-05-20	565	7.2	17.0	--	--	--	--	--
B-24-16 01DDD	GW	80-05-22	650	--	--	180	58	28	26	49
B-25-10 26CDA	GW	80-05-20	650	7.2	--	--	--	--	--	--
B-25-11 25DBD	SP	80-09-24	730	--	--	--	--	--	--	--
B-25-11 26BAA	GW	80-09-24	740	--	--	--	--	--	--	--
B-25-14 15BAB	SP	80-09-24	1320	--	--	--	--	--	--	--
B-26-16 29BBB	GW	80-02-28	16000	--	--	--	--	--	--	--
B-26-17 19DCD	GW	80-03-06	9250	--	--	--	--	--	--	--
B-26-17 35AAA	GW	80-09-25	450	--	--	--	--	--	--	--
B-26-18 01BDB	GW	80-05-21	595	--	20.0	230	87	33	35	22
B-26-18 03AAA1	GW	80-05-21	490	7.7	30.0	160	19	24	24	37
B-26-18 05DBB	GW	80-05-21	405	7.7	20.0	77	0	11	12	55
B-27-15 15AAC	SP	80-09-23	685	--	--	--	--	--	--	--
B-28-16 27CDA	SP	80-09-23	999	--	--	--	--	--	--	--
B-28-16 35BBA	SP	80-09-23	820	--	--	--	--	--	--	--
B-29-16 27ACB	SP	80-09-25	670	--	--	--	--	--	--	--
B-29-17 03DDB	GW	80-04-23	495	--	23.0	--	--	--	--	--
	GW	80-05-20	535	7.5	--	150	21	24	22	36
B-29-17 23CCB	GW	80-05-20	435	7.4	25.0	110	0	15	17	43
B-29-17 36DDA	SP	80-09-25	700	--	--	--	--	--	--	--
B-30-16 07DCA	GW	80-04-24	720	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MARQUAHALA PLAINS--CONTINUED										
	80-08-12	4.3	4.8	--	--	120	120	1.3	36	514
B-02-09 11CBB	80-04-08	--	--	--	--	--	--	1.7	--	--
B-02-09 14BAB	80-04-08	--	--	--	--	--	--	1.9	--	--
B-02-09 14BBB	79-12-11	13	--	102	0	1050	630	4.4	--	--
B-02-09 24BAB	80-08-14	5.5	3.4	--	--	110	110	2.3	36	515
B-02-09 26BCC	80-04-09	--	--	--	--	--	--	1.2	--	--
B-02-09 36BBB	80-04-09	--	--	--	--	--	--	.9	--	--
B-02-10 17DAC	80-08-14	8.7	3.9	--	--	120	99	3.4	27	637
B-02-11 02BB	80-04-15	--	--	--	--	--	--	3.5	--	--
B-02-12 02DDA	80-02-25	12	--	139	0	150	362	.9	--	--
B-03-10 31CBB	80-04-15	--	--	--	--	--	--	2.7	--	--
B-03-11 08CAC	80-04-08	--	--	--	--	--	--	3.2	--	--
	80-08-12	7.6	6.7	--	--	93	73	.3	39	605
B-03-11 22CCB	80-04-08	--	--	--	--	--	--	3.1	--	--
B-03-11 34BBB	80-08-12	9.6	5.0	--	--	110	87	3.4	36	638
B-03-11 34BCC	80-04-15	--	--	--	--	--	--	3.0	--	--
B-03-11 36BBB	80-04-08	--	--	--	--	--	--	2.4	--	--
B-03-11 36CBB	80-04-15	--	--	--	--	--	--	2.8	--	--
	80-08-12	9.6	4.8	--	--	120	83	3.4	29	633
B-04-12 09ACC	80-04-08	--	--	--	--	--	--	3.3	--	--
B-04-12 14CBB	80-04-08	--	--	--	--	--	--	2.8	--	--
C-01-08 06CCC1	80-08-15	14	3.4	--	--	150	180	.5	19	719
C-01-08 06DCC	80-04-15	--	--	--	--	--	--	3.3	--	--
C-01-08 08BB	80-04-15	--	--	--	--	--	--	4.8	--	--
C-01-08 08BCB	80-04-15	--	--	--	--	--	--	3.9	--	--
C-01-08 09BBB	80-08-15	18	2.8	--	--	130	190	.4	39	741
C-01-09 01CCC	80-04-09	--	--	--	--	--	--	3.9	--	--
C-01-09 02CCC	80-04-09	--	--	--	--	--	--	3.3	--	--
C-01-09 02DCC	80-04-09	--	--	--	--	--	--	3.6	--	--
	80-08-13	13	6.5	--	--	170	310	4.4	26	1090
C-01-09 03CCC	80-08-13	13	5.6	--	--	130	200	2.9	25	844
C-01-09 04CCC	80-04-09	--	--	--	--	--	--	2.2	--	--
C-01-09 05ACC	80-08-13	15	3.6	--	--	140	160	.3	28	750
C-01-09 11CCC	80-04-09	--	--	--	--	--	--	6.7	--	--
HUALAPAI VALLEY										
B-21-14 31CCC3	80-05-21	--	--	--	--	--	--	3.5	--	--
B-21-15 19DAB	80-05-03	--	--	--	--	--	--	1.5	--	--
B-21-16 24CDA	80-03-11	--	--	--	--	--	--	1.4	--	--
B-22-13 09ABC	80-05-19	1.0	2.8	--	--	13	20	.0	32	219
B-22-15 12DDA1	80-02-29	--	--	--	--	--	--	1.3	--	--
B-22-16E07DAA	80-03-20	--	--	--	--	--	--	.6	--	--
B-23-12 25AAB	80-09-19	--	--	--	--	--	--	1.0	--	--
B-23-12 30CAB	80-05-19	--	--	--	--	--	--	.8	--	--
B-23-13 29AAA	80-03-21	--	--	--	--	--	--	.7	--	--
B-23-13 29DBC2	80-03-21	--	--	--	--	--	--	.5	--	--
	80-05-19	1.1	9.8	--	--	36	59	.6	76	462
B-23-15 13CDA	80-03-19	--	--	--	--	--	--	2.5	--	--
B-23-16 17DDC	80-03-12	--	--	--	--	--	--	2.3	--	--
B-23-16E07BDA	80-05-23	.9	6.1	--	--	59	150	.4	25	563
B-23-17 35BDB	80-05-23	3.5	4.6	--	--	570	160	.5	40	1380
B-24-12 03BCD2	80-04-22	--	--	--	--	--	--	.5	--	--
	80-05-20	.6	3.4	--	--	15	31	.0	33	259
B-24-13 19BBA	80-09-23	--	--	--	--	--	--	.8	--	--
B-24-13 34ADD2	80-03-24	--	--	--	--	--	--	.4	--	--
B-24-13 35DCB	80-05-20	--	--	--	--	--	--	.8	--	--
B-24-16 01DDD	80-05-22	1.8	3.8	--	--	28	84	1.7	27	328
B-25-10 26CDA	80-05-20	--	--	--	--	--	--	--	--	--
B-25-11 25DBD	80-09-24	--	--	--	--	--	--	.4	--	--
B-25-11 26BAA	80-09-24	--	--	--	--	--	--	3.0	--	--
B-25-14 15BAB	80-09-24	--	--	--	--	--	--	2.4	--	--
B-26-16 29BBB	80-02-28	--	--	--	--	--	--	6.5	--	--
B-26-17 19DCD	80-03-06	--	--	--	--	--	--	.5	--	--
B-26-17 35AAA	80-09-25	--	--	--	--	--	--	2.8	--	--
B-26-18 01BDB	80-05-21	.6	4.2	--	--	36	49	3.0	40	335
B-26-18 03AAA1	80-05-21	1.3	8.4	--	--	30	37	.6	42	304
B-26-18 05DBB	80-05-21	3.2	3.1	--	--	20	19	1.2	15	234
B-27-15 15AAC	80-09-23	--	--	--	--	--	--	.2	--	--
B-28-16 27CDA	80-09-23	--	--	--	--	--	--	3.6	--	--
B-28-16 35BBA	80-09-23	--	--	--	--	--	--	2.5	--	--
B-29-16 27ACB	80-09-25	--	--	--	--	--	--	1.5	--	--
B-29-17 03DDB	80-04-23	--	--	--	--	--	--	1.3	--	--
	80-05-20	1.3	4.5	--	--	23	50	1.2	24	276
B-29-17 23CCB	80-05-20	2.1	4.5	--	--	12	13	1.2	24	238
B-29-17 36DDA	80-09-25	--	--	--	--	--	--	3.4	--	--
B-30-16 07DCA	80-04-24	--	--	--	--	--	--	.9	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	SAMPLE NUMBER
HARQUAHALA PLAINS--CONTINUED										
	80-08-12	.70	2.7	--	10	--	390	<10	<1	1250
B-02-09 11CBB	80-04-08	--	--	--	--	--	--	--	--	1250
B-02-09 14BAB	80-04-08	--	--	--	--	--	--	--	--	1250
B-02-09 14BBB	79-12-11	--	--	--	--	--	--	--	--	1250
B-02-09 24BAB	80-08-14	--	3.1	--	16	--	390	10	<1	1250
B-02-09 26BCC	80-04-09	--	--	--	--	--	--	--	--	1250
B-02-09 36BBB	80-04-09	--	--	--	--	--	--	--	--	1250
B-02-10 17DAC	80-08-14	--	2.6	--	4	--	430	<10	<1	1250
B-02-11 02BB	80-04-15	--	--	--	--	--	--	--	--	1250
B-02-12 02DDA	80-02-25	--	--	--	--	--	--	--	--	1250
B-03-10 31CBB	80-04-15	--	--	--	--	--	--	--	--	1250
B-03-11 08CAC	80-04-08	--	--	--	--	--	--	--	--	1250
	80-08-12	.82	3.5	--	4	--	410	16	<1	1250
B-03-11 22CCB	80-04-08	--	--	--	--	--	--	--	--	1250
B-03-11 34BBB	80-08-12	.97	3.0	--	8	--	460	<10	<1	1250
B-03-11 34BCC	80-04-15	--	--	--	--	--	--	--	--	1250
B-03-11 36BBB	80-04-08	--	--	--	--	--	--	--	--	1250
B-03-11 36CBB	80-04-15	--	--	--	--	--	--	--	--	1250
	80-08-12	.86	2.1	--	6	--	520	<10	<1	1250
B-04-12 04ACC	80-04-08	--	--	--	--	--	--	--	--	1250
B-04-12 14CBB	80-04-08	--	--	--	--	--	--	--	--	1250
C-01-08 06CCC1	80-08-15	.98	5.6	--	22	--	470	<10	<1	1250
C-01-08 06DCC	80-04-15	--	--	--	--	--	--	--	--	1250
C-01-08 08BB	80-04-15	--	--	--	--	--	--	--	--	1250
C-01-08 08BCB	80-04-15	--	--	--	--	--	--	--	--	1250
C-01-08 09BBB	80-08-15	1.01	3.6	--	23	--	540	<10	<1	1250
C-01-09 01CCC	80-04-09	--	--	--	--	--	--	--	--	1250
C-01-09 02CCC	80-04-09	--	--	--	--	--	--	--	--	1250
C-01-09 02DCC	80-04-09	--	--	--	--	--	--	--	--	1250
	80-08-13	1.48	21	--	8	--	610	<10	<1	1250
C-01-09 03CCC	80-08-13	1.15	11	--	5	--	590	<10	<1	1250
C-01-09 04CCC	80-04-09	--	--	--	--	--	--	--	--	1250
C-01-09 05ACC	80-08-13	1.02	4.3	--	5	--	500	<10	<1	1250
C-01-09 11CCC	80-04-09	--	--	--	--	--	--	--	--	1250
HUALAPAI VALLEY										
B-21-14 31CCC3	80-05-21	--	--	--	--	--	--	--	--	1300
B-21-15 19DAB	80-05-03	--	--	--	--	--	--	--	--	1300
B-21-16 24CDA	80-03-11	--	--	--	--	--	--	--	--	1300
B-22-13 09ABC	80-05-19	.30	3.3	--	--	--	100	40	6	1300
B-22-15 12DDA1	80-02-29	--	--	--	--	--	--	--	--	1300
B-22-16E07DAA	80-03-20	--	--	--	--	--	--	--	--	1300
B-23-12 25AAB	80-09-19	--	--	--	--	--	--	--	--	1300
B-23-12 30CAB	80-05-19	--	--	--	--	--	--	--	--	1300
B-23-13 29AAA	80-03-21	--	--	--	--	--	--	--	--	1300
B-23-13 29DBC2	80-03-21	--	--	--	--	--	--	--	--	1300
	80-05-19	.63	1.1	--	13	--	140	<10	1	1300
B-23-15 13CDA	80-03-19	--	--	--	--	--	--	--	--	1300
B-23-16 17DDC	80-03-12	--	--	--	--	--	--	--	--	1300
B-23-16E07BDA	80-05-23	.77	13	--	0	--	140	10	140	1300
B-23-17 35BDB	80-05-23	1.88	.28	--	2	--	350	30	100	1300
B-24-12 03BCD2	80-04-22	--	--	--	--	--	--	--	--	1300
	80-05-20	.35	2.8	--	5	--	90	<10	3	1300
B-24-13 19BBA	80-09-23	--	--	--	--	--	--	--	--	1300
B-24-13 34ADD2	80-03-24	--	--	--	--	--	--	--	--	1300
B-24-13 35DCB	80-05-20	--	--	--	--	--	--	--	--	1300
B-24-16 01DDD	80-05-22	.45	1.5	--	3	--	170	<10	2	1300
B-25-10 26CDA	80-05-20	--	--	--	--	--	--	--	--	1300
B-25-11 25DBD	80-09-24	--	--	--	--	--	--	--	--	1300
B-25-11 26BAA	80-09-24	--	--	--	--	--	--	--	--	1300
B-25-14 15BAB	80-09-24	--	--	--	--	--	--	--	--	1300
B-26-16 29BBB	80-02-28	--	--	--	--	--	--	--	--	1300
B-26-17 19DCD	80-03-06	--	--	--	--	--	--	--	--	1300
B-26-17 35AAA	80-09-25	--	--	--	--	--	--	--	--	1300
B-26-18 01BDB	80-05-21	.46	6.2	--	0	--	110	770	40	1300
B-26-18 03AAA1	80-05-21	.41	3.7	--	--	--	110	<10	4	1300
B-26-18 05DBB	80-05-21	.32	4.2	--	3	--	240	<10	4	1300
B-27-15 15AAC	80-09-23	--	--	--	--	--	--	--	--	1300
B-28-16 27CDA	80-09-23	--	--	--	--	--	--	--	--	1300
B-28-16 35BBA	80-09-23	--	--	--	--	--	--	--	--	1300
B-29-16 27ACB	80-09-25	--	--	--	--	--	--	--	--	1300
B-29-17 03DDB	80-04-23	--	--	--	--	--	--	--	--	1300
	80-05-20	.38	2.9	--	1	--	170	<10	<3	1300
B-29-17 23CCB	80-05-20	.32	4.0	--	1	--	290	16	1	1300
B-29-17 36DDA	80-09-25	--	--	--	--	--	--	--	--	1300
B-30-16 07DCA	80-04-24	--	--	--	--	--	--	--	--	1300

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
LOWER HASSAYAMPA										
B-01-06 08ABB	GW	80-08-19	--	8.5	32.0	48	3	17	1.3	200
B-01-06 10AAB	GW	80-08-19	--	8.9	30.5	11	0	4.0	.3	130
B-02-06 05DAA	GW	80-08-19	--	7.7	30.5	120	5	35	6.6	110
B-02-06 17AAA	GW	80-08-19	--	7.8	28.0	140	30	43	7.7	130
B-02-06 19DAA	GW	80-08-18	--	7.8	31.0	170	86	53	8.4	190
B-02-06 23AAB	GW	80-08-19	--	7.7	26.0	140	11	41	9.3	110
B-02-06 28BAB	GW	80-08-19	--	7.8	26.5	46	0	16	1.4	130
B-02-06 31DDD	GW	80-08-17	--	8.8	35.0	25	0	9.4	.4	190
B-02-07 14CBB	GW	80-08-17	--	8.2	30.0	33	0	11	1.3	180
B-02-07 26ABB	GW	80-08-17	--	8.0	45.0	50	0	17	1.7	230
B-02-07 26ACB	GW	80-08-17	--	8.0	37.0	140	46	44	6.1	250
C-01-06 17ABB	GW	80-08-20	--	7.9	30.5	120	0	28	12	190
C-01-06 19ABB	GW	80-08-20	--	7.7	34.0	190	0	46	19	560
C-01-06 21CBB2	GW	80-08-20	--	7.8	33.0	130	0	28	14	530
LOWER SANTA CRUZ BASIN										
D-04-09 28CDB	GW	80-08-07	--	7.1	22.0	560	380	165	35	190
D-05-08 05BBA	GW	80-08-07	--	7.2	24.0	420	--	130	24	230
D-05-08 12ADA1	GW	80-08-07	--	7.2	20.0	400	230	115	26	190
D-07-01 10CBC2	GW	79-12-01	640	8.2	32.0	51	0	11	5.8	110
D-07-10-02DAA	GW	80-03-20	--	--	--	170	32	47	13	54
D-07-10-02DAA2	GW	80-06-25	--	--	--	--	--	--	--	--
	GW	80-06-25	--	--	--	--	--	--	--	--
	GW	80-06-25	--	--	--	--	--	--	--	--
D-08-01 35ABD	GW	79-12-28	750	8.4	39.0	17	--	5.9	.6	130
D-08-09 05BCB PZ1	GW	79-10-12	1000	--	--	100	0	38	2.2	170
D-08-09 05BCB PZ2	GW	79-10-12	3200	--	--	760	550	300	2.3	400
D-09-01 13BBD	GW	79-12-11	620	8.0	36.5	42	0	13	2.2	130
D-10-04 28DDA	GW	80-07-15	1080	7.5	28.0	160	0	31	19	180
	GW	80-07-15	1200	7.5	28.0	125	--	22	17	170
D-10-04 33DDC1	GW	80-07-15	890	7.8	33.5	130	0	27	16	160
	GW	80-07-15	1030	7.8	33.5	109	--	19	15	148
D-13-13 06DDD	GW	80-05-14	--	--	--	602	--	200	25	75
D-14-14 29CBC	GW	80-05-29	--	7.7	26.5	210	73	65	12	36
	GW	80-05-29	--	7.7	27.0	160	34	54	7.0	55
LOWER VERDE RIVER										
	GW	80-07-15	1030	7.8	33.5	109	--	19	15	148
A-10H12 19DAD	GW	79-10-04	175	--	22.0	--	--	--	--	--
A-11-11H20CBD	GW	79-10-04	130	--	16.0	--	--	--	--	--
MCMULLAN VALLEY										
B-05-12 06DBC	GW	80-08-22	610	--	--	--	--	--	--	--
B-05-12 07ABC	GW	80-08-22	600	--	--	--	--	--	--	--
B-05-12 30BCC2	GW	80-08-22	630	--	--	--	--	--	--	--
B-05-12 30DCC	GW	80-08-28	625	--	--	--	--	--	--	--
B-05-12 31AAA	GW	80-08-29	680	--	--	--	--	--	--	--
B-05-13 01ACB	GW	80-08-22	560	--	--	--	--	--	--	--
B-05-13 01CBA	GW	80-05-29	600	8.2	31.0	26	0	7.4	1.8	110
B-05-13 02BAB	GW	80-08-15	550	--	--	--	--	--	--	--
B-05-13 02CBB	GW	80-08-21	525	--	--	--	--	--	--	--
B-05-13 03ABB	GW	80-08-21	640	--	--	--	--	--	--	--
B-05-13 03CAA	GW	80-08-21	580	--	--	--	--	--	--	--
B-05-13 03CBB	GW	80-08-21	650	--	--	--	--	--	--	--
B-05-13 04BBA	GW	80-08-21	590	--	--	--	--	--	--	--
B-05-13 04DBB	GW	80-08-21	600	--	--	--	--	--	--	--
B-05-13 05CBB	GW	80-08-21	980	--	--	--	--	--	--	--
B-05-13 08ABA	GW	80-08-21	555	--	--	--	--	--	--	--
B-05-13 09ABD	GW	80-08-21	900	--	--	--	--	--	--	--
B-05-13 09BBA	GW	80-08-21	1440	--	--	--	--	--	--	--
B-05-13 10BBB	GW	80-08-21	710	--	--	--	--	--	--	--
B-05-13 10BBC	GW	80-08-21	860	--	--	--	--	--	--	--
B-05-13 10CCC	GW	80-05-14	690	7.5	29.0	130	0	37	8.0	97
B-05-13 10CDB	GW	80-05-14	670	7.5	31.0	110	0	31	7.3	92
B-05-13 10DBA	GW	80-08-22	850	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
LOWER HASSAYAMPA										
B-01-06 08AAB	80-08-19	13	3.0	--	--	78	250	.6	26	815
B-01-06 10AAB	80-08-19	17	1.0	--	--	66	85	.3	22	364
B-02-06 05DAA	80-08-19	4.7	4.3	--	--	85	110	.5	34	461
B-02-06 17AAA	80-08-19	5.0	5.2	--	--	100	150	.5	33	540
B-02-06 19DAA	80-08-18	6.7	7.4	--	--	98	260	.5	27	712
B-02-06 23AAB	80-08-19	4.3	4.1	--	--	120	73	2.4	24	489
B-02-06 28BAB	80-08-19	0.6	3.4	--	--	82	81	.6	20	415
B-02-06 31DDD	80-08-17	17	2.0	--	--	81	220	.5	21	566
B-02-07 14CBB	80-08-17	14	1.3	--	--	78	170	.7	31	546
B-02-07 26ABB	80-08-17	15	2.2	--	--	93	270	.5	26	691
B-02-07 26ACB	80-08-17	9.7	4.0	--	--	130	320	.5	37	879
C-01-06 17ABB	80-08-20	8.3	4.7	--	--	110	190	2.8	41	672
C-01-06 19ABB	80-08-20	19	9.3	--	--	440	440	.5	49	1750
C-01-06 21CBB2	80-08-20	23	5.7	--	--	380	450	.6	43	1600
LOWER SANTA CRUZ BASIN										
D-04-09 28CDB	80-08-07	3.7	6.9	--	--	190	410	.8	33	1200
D-05-08 05BBA	80-08-07	5.1	5.1	--	--	210	370	.8	32	1090
D-05-08 12ADA1	80-08-07	4.4	7.1	--	--	200	270	.8	35	975
D-07-01 10CBC2	79-12-01	6.7	3.4	--	--	47	49	2.0	30	393
D-07-10-02DAA	80-05-20	1.9	2.9	--	--	83	34	.6	37	365
D-07-10-02DAA2	80-06-25	--	--	--	--	--	--	--	--	--
	80-06-25	--	--	--	--	--	--	--	--	--
	80-06-25	--	--	--	--	--	--	--	--	--
D-08-01 35ABD	79-12-28	14	1.7	--	--	76	84	.7	43	198
D-08-09 05BCB PZ1	79-10-12	7.5	3.1	--	--	66	200	5.1	14	563
D-08-09 05BCB PZ2	79-10-12	6.3	11	--	--	210	860	2.8	33	1960
D-09-01 13BBD	79-12-11	8.8	6.6	--	--	95	78	.5	44	467
D-10-04 28DDA	80-07-15	7.0	4.8	--	--	110	170	.3	29	667
	80-07-15	6.6	6.0	--	--	93	176	2.0	--	672
D-10-04 33DDC1	80-07-15	6.7	4.3	--	--	100	120	2.6	29	585
	80-07-15	6.2	6.0	--	--	92	128	2.3	--	650
D-13-13 06DDD	80-05-14	1.5	--	--	0	400	119	.2	--	--
D-14-14 29CBC	80-05-29	1.1	5.0	--	--	120	7.0	.2	28	366
	80-05-29	1.9	2.4	--	--	130	8.0	1.8	12	350
LOWER VERDE RIVER										
	80-07-15	6.2	6.0	--	--	92	128	2.3	--	650
A-10H12 19DAD	79-10-04	--	--	--	--	--	--	.5	--	--
A-11-11H20CBD	79-10-04	--	--	--	--	--	--	.5	--	--
MCMULLAN VALLEY										
B-05-12 06DBC	80-08-22	--	--	--	--	--	--	2.1	--	--
B-05-12 07ABC	80-08-22	--	--	--	--	--	--	1.7	--	--
B-05-12 30BCC2	80-08-22	--	--	--	--	--	--	3.0	--	--
B-05-12 30DCC	80-08-28	--	--	--	--	--	--	1.6	--	--
B-05-12 31AAA	80-08-29	--	--	--	--	--	--	3.0	--	--
B-05-13 01ACB	80-08-22	--	--	--	--	--	--	3.6	--	--
B-05-13 01CBA	80-05-29	9.4	1.8	--	--	52	47	2.1	21	343
B-05-13 02BAB	80-08-15	--	--	--	--	--	--	1.7	--	--
B-05-13 02CBB	80-08-21	--	--	--	--	--	--	1.7	--	--
B-05-13 03ABB	80-08-21	--	--	--	--	--	--	.6	--	--
B-05-13 03CAA	80-08-21	--	--	--	--	--	--	.6	--	--
B-05-13 03CBB	80-08-21	--	--	--	--	--	--	.5	--	--
B-05-13 04BBA	80-08-21	--	--	--	--	--	--	.7	--	--
B-05-13 04DBB	80-08-21	--	--	--	--	--	--	.3	--	--
B-05-13 05CBB	80-08-21	--	--	--	--	--	--	.6	--	--
B-05-13 08ABA	80-08-21	--	--	--	--	--	--	.8	--	--
B-05-13 09ABD	80-08-21	--	--	--	--	--	--	.4	--	--
B-05-13 09BBA	80-08-21	--	--	--	--	--	--	.7	--	--
B-05-13 10BBB	80-08-21	--	--	--	--	--	--	.6	--	--
B-05-13 10BBC	80-08-21	--	--	--	--	--	--	.7	--	--
B-05-13 10CCC	80-05-14	4.0	5.4	--	--	55	74	.6	28	396
B-05-13 10CDB	80-05-14	3.9	4.9	--	--	51	80	1.2	26	400
B-05-13 10DBA	80-08-22	--	--	--	--	--	--	2.1	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	SAMPLE NUMBER
LOWER HASSAYAMPA										
B-01-06 08ABB	80-08-19	.84	2.5	--	20	--	690	<10	<1	1340
B-01-06 10AAB	80-08-19	.50	3.9	--	17	--	420	<10	<1	1340
B-02-06 05DAA	80-08-19	.63	1.8	--	13	--	520	<10	<1	1340
B-02-06 17AAA	80-08-19	.73	5.2	--	14	--	500	<10	<1	1340
B-02-06 19DAA	80-08-18	.97	3.3	--	15	--	770	14	<1	1340
B-02-06 23AAB	80-08-19	.67	5.9	--	8	--	390	<10	<1	1340
B-02-06 28BAB	80-08-19	.56	4.8	--	19	--	420	12	<1	1340
B-02-06 31DDD	80-08-17	.77	2.0	--	10	--	690	<10	<1	1340
B-02-07 14CBB	80-08-17	.74	1.2	--	28	--	860	<10	<1	1340
B-02-07 26ABB	80-08-17	.94	1.1	--	62	--	740	<10	<1	1340
B-02-07 26ACB	80-08-17	1.20	7.3	--	46	--	720	<10	<1	1340
C-01-06 17ABB	80-08-20	.91	3.2	--	11	--	720	<10	<1	1340
C-01-06 19ABB	80-08-20	2.38	4.4	--	17	--	1600	<10	<3	1340
C-01-06 21CBB2	80-08-20	2.18	5.0	--	25	--	1500	<10	<1	1340
LOWER SANTA CRUZ BASIN										
D-04-09 28CDB	80-08-07	1.63	13	--	2	--	170	14	2	1360
D-05-08 05BBA	80-08-07	--	1.4	--	3	--	180	20	<1	1360
D-05-08 12ADA1	80-08-07	1.33	6.3	--	3	--	210	13	1	1360
D-07-01 10CBC2	79-12-01	.52	6.4	--	9	--	230	10	<1	1360
D-07-10-02DAA	80-03-20	.50	1.8	--	17	--	90	<10	9	1360
D-07-10-02DAA2	80-06-25	--	--	--	--	--	--	--	--	1360
	80-06-25	--	--	--	--	--	--	--	--	1360
	80-06-25	--	--	--	--	--	--	--	--	1360
D-08-01 35ABD	79-12-28	.27	8.4	--	9	--	240	30	10	1360
D-08-09 05BCB PZ1	79-10-12	.77	.02	--	--	--	270	20	60	1360
D-08-09 05BCB PZ2	79-10-12	2.67	3.0	--	--	--	5800	60	20	1360
D-09-01 13BBD	79-12-11	.64	8.3	--	5	--	170	40	30	1360
D-10-04 28DDA	80-07-15	.91	5.5	--	27	--	430	17	29	1360
	80-07-15	--	--	<20	--	<500	--	<100	--	1360
D-10-04 33DDC1	80-07-15	.80	3.7	--	30	--	460	<10	<1	1360
	80-07-15	--	--	<20	--	<500	--	<100	<20	1360
D-13-13 06DDD	80-03-14	--	--	<0	--	--	--	--	--	1360
D-14-14 29CBC	80-05-29	.50	1.7	--	3	--	50	<10	<1	1360
	80-05-29	.48	.08	--	1	--	90	<10	410	1360
LOWER VERDE RIVER										
	80-07-15	--	--	<20	--	<500	--	<100	<20	1360
A-10H12 19DAD	79-10-04	--	--	--	--	--	--	--	--	1370
A-11-11H20CBD	79-10-04	--	--	--	--	--	--	--	--	1370
MCMULLAN VALLEY										
B-05-12 06DBC	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-12 07ABC	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-12 30BCC2	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-12 30DCC	80-08-28	--	--	--	--	--	--	--	--	1380
B-05-12 31AAA	80-08-29	--	--	--	--	--	--	--	--	1380
B-05-13 01ACB	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-13 01CBA	80-05-29	.47	5.6	--	--	--	270	<10	<3	1380
B-05-13 02BAB	80-08-15	--	--	--	--	--	--	--	--	1380
B-05-13 02CBB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 03ABB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 03CAA	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 03CBB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 04BBA	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 04DBB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 05CBB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 08ABA	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 09ABD	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 09BBA	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 10BBB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 10BBC	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 10CCC	80-05-14	.54	3.8	--	4	--	140	<10	<1	1380
B-05-13 10CDB	80-05-14	.54	5.0	--	--	--	170	<10	<1	1380
B-05-13 10DBA	80-08-22	--	--	--	--	--	--	--	--	1380

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
MCMULLEN VALLEY--CONTINUED										
B-05-13 11ACB	GW	80-05-29	1050	8.2	30.5	68	0	22	3.0	170
B-05-13 11BAA	GW	80-05-29	560	--	31.0	--	--	--	--	--
	GW	80-08-22	570	--	--	--	--	--	--	--
B-05-13 11CBB	GW	80-08-22	645	--	--	--	--	--	--	--
B-05-13 12ACD	GW	80-08-22	1500	--	--	--	--	--	--	--
B-05-13 12BBB	GW	80-05-29	665	7.9	28.5	54	0	13	5.2	100
	GW	80-08-22	600	--	--	--	--	--	--	--
B-05-13 14BBB2	GW	80-08-22	755	--	--	--	--	--	--	--
B-05-13 15BAB	GW	80-05-14	915	7.5	31.0	160	42	50	8.9	120
B-05-13 16DDB	GW	80-08-21	710	--	--	--	--	--	--	--
B-05-13 20AAD	GW	80-08-21	860	--	--	--	--	--	--	--
B-05-13 20ADB	GW	80-08-21	780	--	--	--	--	--	--	--
B-05-13 20BAA	GW	80-08-21	660	--	--	--	--	--	--	--
B-05-13 21ACC	GW	80-08-21	1370	--	--	--	--	--	--	--
B-05-13 25ABB	GW	80-08-29	670	--	--	--	--	--	--	--
B-05-13 28ACC	GW	80-08-29	710	--	--	--	--	--	--	--
B-05-13 36ABB	GW	80-08-29	1460	--	--	--	--	--	--	--
B-06-11 07DDD	GW	80-08-22	600	--	--	--	--	--	--	--
B-06-12 13DCD	GW	80-08-14	570	--	--	--	--	--	--	--
B-06-12 13DDD	GW	80-08-14	600	--	--	--	--	--	--	--
B-06-12 19AAB	GW	80-08-15	490	--	--	--	--	--	--	--
B-06-12 19BBA	GW	80-08-15	530	--	--	--	--	--	--	--
B-06-12 20CBB	GW	80-08-15	850	--	--	--	--	--	--	--
B-06-12 22AAA	GW	80-08-15	910	--	--	--	--	--	--	--
B-06-12 22ADD2	GW	80-08-15	520	--	--	--	--	--	--	--
B-06-12 23ACD	GW	80-05-29	545	--	37.0	--	--	--	--	--
	GW	80-08-14	550	--	--	--	--	--	--	--
B-06-12 23ADA	GW	80-05-29	580	--	36.0	--	--	--	--	--
	GW	80-08-14	570	--	--	--	--	--	--	--
B-06-12 30AAB	GW	80-08-15	1240	--	--	--	--	--	--	--
B-06-12 30DAC	GW	80-08-15	600	--	--	--	--	--	--	--
B-06-12 31BBB	GW	80-05-29	680	8.1	36.0	26	0	7.1	1.8	130
B-06-12 31DBB	GW	80-08-22	550	--	--	--	--	--	--	--
B-06-12 32BBC2	GW	80-08-29	650	--	--	--	--	--	--	--
B-06-13 24DCC	GW	80-08-15	545	--	--	--	--	--	--	--
B-06-13 25BBB	GW	80-05-29	600	7.8	33.0	88	0	23	7.3	88
B-06-13 25BDA	GW	80-05-29	575	8.0	32.5	34	0	9.5	2.4	110
B-06-13 25CCB	GW	80-08-15	610	--	--	--	--	--	--	--
B-06-13 26CBB	GW	80-08-15	690	--	--	--	--	--	--	--
B-06-13 35ABB	GW	80-08-15	580	--	--	--	--	--	--	--
B-06-13 35BBB	GW	80-05-29	445	7.6	29.5	140	0	38	11	73
	GW	80-08-15	610	--	--	--	--	--	--	--
B-06-13 35CBB	GW	80-08-15	570	--	--	--	--	--	--	--
B-06-13 36ABB	GW	80-05-29	705	--	34.5	--	--	--	--	--
	GW	80-08-15	550	--	--	--	--	--	--	--
B-06-13 36ACB	GW	80-08-15	630	--	--	--	--	--	--	--
B-06-13 36BBC	GW	80-05-29	600	8.0	32.5	53	0	14	4.4	110
	GW	80-08-15	570	--	--	--	--	--	--	--
B-06-13 36CBC	GW	80-05-29	930	--	--	--	--	--	--	--
	GW	80-08-13	--	7.0	25.0	--	--	--	--	--
B-07-07 17DCC	GW	80-08-14	570	--	--	--	--	--	--	--
B-07-08 16AAA	GW	80-05-15	390	7.7	34.0	48	0	9.7	5.8	70
B-07-08 17BBC	GW	80-05-15	365	7.1	30.0	57	0	13	6.0	53
B-07-08 17DBB	GW	80-08-14	550	--	--	--	--	--	--	--
B-07-08 17DCC	GW	80-08-15	590	--	--	--	--	--	--	--
B-07-08 19ADA	GW	80-05-15	425	--	--	--	--	--	--	--
B-07-08 19ADA	GW	80-05-15	425	--	--	--	--	--	--	--
B-07-08 29ADD	GW	80-05-15	470	7.4	31.0	23	0	3.9	3.2	88
B-07-08 29DDD	GW	80-05-15	480	--	--	--	--	--	--	--
B-07-08 30DAA	GW	80-05-15	450	6.7	33.0	37	0	9.1	3.3	89
B-07-08 32ADD	GW	80-05-15	510	--	--	--	--	--	--	--
B-07-08 33BCC	GW	80-05-15	550	7.4	33.0	7	0	2.3	.2	110
B-07-08 33BDD	GW	80-05-15	550	7.4	33.0	7	0	2.3	.2	110
B-07-09 04BBD	GW	80-05-15	470	7.4	36.0	26	0	5.1	3.2	92
B-07-09 09AAA	GW	80-08-12	430	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MCMULLEN VALLEY--CONTINUED										
B-05-13 11ACB	80-05-29	9.4	2.8	--	--	66	150	2.7	20	562
B-05-13 11BAA	80-05-29	--	--	--	--	--	--	3.7	--	--
	80-08-22	--	--	--	--	--	--	3.2	--	--
B-05-13 11CBB	80-08-22	--	--	--	--	--	--	2.4	--	--
B-05-13 12ACD	80-08-22	--	--	--	--	--	--	2.1	--	--
B-05-13 12BBB	80-05-29	5.9	1.9	--	--	50	50	1.8	22	330
	80-08-22	--	--	--	--	--	--	3.3	--	--
B-05-13 14BBB2	80-08-22	--	--	--	--	--	--	1.6	--	--
B-05-13 15BAB	80-05-14	4.1	6.4	--	--	62	140	1.0	29	522
B-05-13 16DDB	80-08-21	--	--	--	--	--	--	1.1	--	--
B-05-13 20AAD	80-08-21	--	--	--	--	--	--	1.0	--	--
B-05-13 20ADB	80-08-21	--	--	--	--	--	--	.8	--	--
B-05-13 20BAA	80-08-21	--	--	--	--	--	--	1.6	--	--
B-05-13 21ACC	80-08-21	--	--	--	--	--	--	.8	--	--
B-05-13 25ABB	80-08-29	--	--	--	--	--	--	2.8	--	--
B-05-13 28ACC	80-08-29	--	--	--	--	--	--	1.0	--	--
B-05-13 30ABB	80-08-29	--	--	--	--	--	--	1.2	--	--
B-06-11 07DDD	80-08-22	--	--	--	--	--	--	2.5	--	--
B-06-12 13DCD	80-08-14	--	--	--	--	--	--	3.3	--	--
B-06-12 13DDD	80-08-14	--	--	--	--	--	--	3.7	--	--
B-06-12 19AAB	80-08-15	--	--	--	--	--	--	3.0	--	--
B-06-12 19BBA	80-08-15	--	--	--	--	--	--	2.1	--	--
B-06-12 20CBB	80-08-15	--	--	--	--	--	--	5.5	--	--
B-06-12 22AAA	80-08-15	--	--	--	--	--	--	7.0	--	--
B-06-12 22ADD2	80-08-15	--	--	--	--	--	--	6.8	--	--
B-06-12 23ACD	80-05-29	--	--	--	--	--	--	6.3	--	--
	80-08-14	--	--	--	--	--	--	5.0	--	--
B-06-12 23ADA	80-05-29	--	--	--	--	--	--	7.0	--	--
	80-08-14	--	--	--	--	--	--	6.2	--	--
B-06-12 30AAB	80-08-15	--	--	--	--	--	--	7.6	--	--
B-06-12 30DAC	80-08-15	--	--	--	--	--	--	3.6	--	--
B-06-12 31BBB	80-05-29	12	2.0	--	--	82	34	2.6	19	380
B-06-12 31DBB	80-08-22	--	--	--	--	--	--	3.5	--	--
B-06-12 32BBC2	80-08-29	--	--	--	--	--	--	2.9	--	--
B-06-13 24DCC	80-08-15	--	--	--	--	--	--	1.9	--	--
B-06-13 25BBB	80-05-29	4.1	3.2	--	--	45	42	1.4	24	338
B-06-13 25BDA	80-05-29	8.3	2.5	--	--	37	41	1.4	23	330
B-06-13 25CCB	80-08-15	--	--	--	--	--	--	2.2	--	--
B-06-13 26CBB	80-08-15	--	--	--	--	--	--	1.1	--	--
B-06-13 35ABB	80-08-15	--	--	--	--	--	--	1.1	--	--
B-06-13 35BBB	80-05-29	2.9	3.7	--	--	46	63	1.0	27	371
	80-08-15	--	--	--	--	--	--	1.1	--	--
B-06-13 35CBB	80-08-15	--	--	--	--	--	--	.8	--	--
B-06-13 36ABB	80-05-29	--	--	--	--	--	--	2.8	--	--
	80-08-15	--	--	--	--	--	--	2.6	--	--
B-06-13 36ACB	80-08-15	--	--	--	--	--	--	5.3	--	--
B-06-13 36BBC	80-05-29	6.6	2.8	--	--	52	38	.6	20	349
	80-08-15	--	--	--	--	--	--	5.0	--	--
B-06-13 36CBC	80-05-29	--	--	--	--	--	--	4.0	--	--
	80-08-13	--	--	--	--	--	--	--	--	--
B-07-07 17DCC	80-08-14	--	--	--	--	--	--	8.3	--	--
B-07-08 16AAA	80-05-15	4.9	2.4	--	--	23	18	4.0	24	242
B-07-08 17BBC	80-05-15	5.1	2.6	--	--	21	14	4.8	24	218
B-07-08 17DBB	80-08-14	--	--	--	--	--	--	5.1	--	--
B-07-08 17DCC	80-08-15	--	--	--	--	--	--	5.8	--	--
B-07-08 19ADA	80-05-15	--	--	--	--	--	--	2.8	--	--
B-07-08 19ADA	80-05-15	--	--	--	--	--	--	2.8	--	--
B-07-08 29ADD	80-05-15	8.0	1.4	--	--	30	31	3.1	19	259
B-07-08 29DDD	80-05-15	--	--	--	--	--	--	2.0	--	--
B-07-08 30DAA	80-05-15	7.0	2.1	--	--	34	34	4.8	22	264
B-07-08 32ADD	80-05-15	--	--	--	--	--	--	1.9	--	--
B-07-08 33BCC	80-05-15	19	.7	--	--	45	51	2.2	19	308
B-07-08 33BDD	80-05-15	19	.7	--	--	45	51	2.2	19	308
B-07-09 04BBD	80-05-15	8.8	1.4	--	--	31	36	3.9	24	267
B-07-09 09AAA	80-08-12	--	--	--	--	--	--	2.8	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	SAMPLE NUMBER
MCMULLEN VALLEY--CONTINUED										
B-05-13 11ACB	80-05-29	.76	13	--	5	--	260	<10	<1	1380
B-05-13 11BAA	80-05-29	--	--	--	--	--	--	--	--	1380
	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-13 11CBB	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-13 12ACD	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-13 12BBB	80-05-29	.45	3.1	--	--	--	260	<10	<3	1380
	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-13 14BBB2	80-08-22	--	--	--	--	--	--	--	--	1380
B-05-13 15BAB	80-05-14	.71	1.2	--	--	--	170	<10	<1	1380
B-05-13 16DDB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 20AAD	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 20ADB	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 20BAA	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 21ACC	80-08-21	--	--	--	--	--	--	--	--	1380
B-05-13 25ABB	80-08-29	--	--	--	--	--	--	--	--	1380
B-05-13 28ACC	80-08-29	--	--	--	--	--	--	--	--	1380
B-05-13 36ABB	80-08-29	--	--	--	--	--	--	--	--	1380
B-06-11 07DDD	80-08-22	--	--	--	--	--	--	--	--	1380
B-06-12 13DCD	80-08-14	--	--	--	--	--	--	--	--	1380
B-06-12 13DDD	80-08-14	--	--	--	--	--	--	--	--	1380
B-06-12 19AAB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-12 19BBA	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-12 20CBB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-12 22AAA	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-12 22ADD2	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-12 23ACD	80-05-29	--	--	--	--	--	--	--	--	1380
	80-08-14	--	--	--	--	--	--	--	--	1380
B-06-12 23ADA	80-05-29	--	--	--	--	--	--	--	--	1380
	80-08-14	--	--	--	--	--	--	--	--	1380
B-06-12 30AAB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-12 30DAC	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-12 31BBB	80-05-29	.52	2.2	--	17	--	830	<10	1	1380
B-06-12 31DBB	80-08-22	--	--	--	--	--	--	--	--	1380
B-06-12 32BBC2	80-08-29	--	--	--	--	--	--	--	--	1380
B-06-13 24DCC	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 25BBB	80-05-29	.46	3.2	--	--	--	220	<10	<3	1380
B-06-13 25BDA	80-05-29	.45	2.9	--	--	--	240	<10	<3	1380
B-06-13 25CCB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 26CBB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 35ABB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 35BBB	80-05-29	.50	3.7	--	6	--	180	<10	1	1380
	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 35CBB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 36ABB	80-05-29	--	--	--	--	--	--	--	--	1380
	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 36ACB	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 36BBC	80-05-29	.47	3.8	--	--	--	270	<10	<3	1380
	80-08-15	--	--	--	--	--	--	--	--	1380
B-06-13 36CBC	80-05-29	--	--	--	--	--	--	--	--	1380
	80-08-13	--	--	--	--	--	--	--	--	1380
B-07-07 17DCC	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-08 16AAA	80-05-15	.33	1.7	--	8	--	170	<10	<1	1380
B-07-08 17BBC	80-05-15	.30	1.6	--	--	--	150	<10	<1	1380
B-07-08 17DBB	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-08 17DCC	80-08-15	--	--	--	--	--	--	--	--	1380
B-07-08 19ADA	80-05-15	--	--	--	--	--	--	--	--	1380
B-07-08 19ADA	80-05-15	--	--	--	--	--	--	--	--	1380
B-07-08 29ADD	80-05-15	.35	2.9	--	--	--	240	<10	<1	1380
B-07-08 29DDD	80-05-15	--	--	--	--	--	--	--	--	1380
B-07-08 30DAA	80-05-15	.36	2.3	--	14	--	200	<10	<1	1380
B-07-08 32ADD	80-05-15	--	--	--	--	--	--	--	--	1380
B-07-08 33BCC	80-05-15	.42	4.1	--	8	--	190	<10	<1	1380
B-07-08 33BDD	80-05-15	.42	4.1	--	8	--	190	<10	<1	1380
B-07-09 04BBD	80-05-15	.36	3.5	--	14	--	200	<10	<1	1380
B-07-09 09AAA	80-08-12	--	--	--	--	--	--	--	--	1380

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
MCMULLEN VALLEY--CONTINUED										
B-07-09 09DBA	GW	80-08-12	380	--	--	--	--	--	--	--
B-07-09 10AAA	GW	80-05-15	465	6.3	30.5	74	0	15	8.8	68
B-07-09 10DAA	GW	80-08-12	380	--	--	--	--	--	--	--
B-07-09 11AAA	GW	80-05-15	485	6.2	29.0	90	0	20	9.8	64
B-07-09 11ABB	GW	80-05-15	480	--	--	--	--	--	--	--
B-07-09 11ADD	GW	80-08-14	410	--	--	--	--	--	--	--
B-07-09 12ADD	GW	80-08-14	380	--	--	--	--	--	--	--
B-07-09 14AAB	GW	80-08-14	385	--	--	--	--	--	--	--
B-07-09 15CDD	GW	80-05-28	440	--	28.0	--	--	--	--	--
B-07-09 16ADD	GW	80-08-14	395	--	--	--	--	--	--	--
B-07-09 17ADA	GW	80-05-15	465	6.4	29.0	67	0	14	7.8	48
B-07-09 17DCD	GW	80-05-28	425	--	30.5	--	--	--	--	--
B-07-09 20CAA	GW	80-08-14	520	--	--	--	--	--	--	--
B-07-09 22DCC	GW	80-08-14	520	--	--	--	--	--	--	--
B-07-09 24AAA	GW	80-08-14	440	--	--	--	--	--	--	--
B-07-09 24BAA	GW	80-05-15	430	--	--	--	--	--	--	--
B-07-09 25CCC	GW	80-08-15	620	--	--	--	--	--	--	--
B-07-10 19DDD	GW	80-05-28	495	8.0	27.0	50	0	8.7	6.9	77
B-07-10 21ACB	GW	80-05-28	465	--	31.0	--	--	--	--	--
B-08-09 32AAA	GW	80-05-28	600	8.8	34.5	11	0	3.3	.6	120
B-08-09 32BAA	GW	80-05-28	535	9.1	33.5	--	--	1.4	<.0	110
PUERCO-7UNI										
A-14-26 10CDC	SP	80-04-30	3760	6.8	15.5	1000	560	270	90	450
A-14-29 35CDC2	GW	80-04-29	1760	7.0	19.0	700	190	210	42	150
	GW	80-09-24	1758	6.3	21.0	620	100	180	42	140
RANEGRAS PLAIN										
B-02-13 19DCC	GW	80-08-16	--	8.4	31.0	32	0	9.0	2.3	180
B-02-14 10CDC	GW	80-08-17	--	8.4	31.0	24	0	7.4	1.3	150
B-02-14 28CCC	GW	80-08-17	--	--	--	240	140	47	29	130
B-03-14 13ADD	GW	80-08-22	--	7.2	33.0	280	140	94	9.5	140
B-03-15 02DAB	GW	80-08-16	--	8.3	37.5	35	13	12	1.1	210
B-03-15 2DAC	GW	80-08-12	--	8.2	--	20	0	7.4	.4	220
B-04-15 09ADA	GW	80-08-14	--	7.7	28.0	350	280	130	5.0	400
B-04-15 28BBD	GW	80-08-13	--	8.2	27.0	71	18	23	3.2	240
B-04-16 09BDA	GW	80-08-11	--	7.2	29.0	89	0	25	6.2	140
B-04-16 15ABC	GW	80-08-15	--	8.2	29.0	35	0	12	1.1	150
B-04-16 18DCB	GW	80-08-14	--	7.4	32.0	280	130	89	13	93
B-05-14 30DDB2	GW	80-08-09	--	7.4	35.0	230	81	53	24	200
B-05-16 09CBB	GW	80-08-10	--	7.6	29.5	130	75	42	6.5	230
B-06-15 07AAC	GW	80-08-09	--	7.8	27.5	150	42	42	11	140
B-06-15 08CCA	GW	80-08-08	--	7.7	29.0	180	81	49	14	170
B-06-15 33BAB	GW	80-08-11	--	7.6	28.0	140	9	39	9.7	240
B-06-16 13DAC	GW	80-08-09	--	7.7	29.0	230	150	75	9.7	210
B-06-16 17BAA	GW	80-08-13	--	7.7	29.0	180	140	60	6.4	300
B-06-16 32BBC	GW	80-08-15	--	7.7	33.0	61	0	21	1.8	170
B-06-17 12DBB2	GW	80-08-13	--	7.4	25.0	200	0	62	8.8	85
B-07-17 23CDC2	GW	80-08-21	--	7.4	26.0	210	67	62	12	220
B-07-17 35BCC	GW	80-08-21	--	7.8	30.5	140	86	48	3.2	240
SACRAMENTO VALLEY										
B-15-17 07DCA	GW	79-10-23	500	--	24.0	--	--	--	--	--
B-17-17 31WBDB	GW	80-09-04	535	7.4	29.0	170	55	36	19	41
B-17-18 12ABD	GW	80-09-04	530	7.5	31.0	150	23	37	13	32
B-17-18 12BCA	GW	80-09-04	535	7.8	28.5	150	32	31	18	34
B-17-18 13AAA	GW	79-10-24	580	--	20.0	--	--	--	--	--
B-19-16 08ADC	SP	79-10-25	1100	--	--	--	--	--	--	--
B-19-16 09DCD	GW	79-10-25	743	--	21.0	--	--	--	--	--
B-19-19 04ACB	SP	79-10-11	329	--	--	--	--	--	--	--
B-19-19 17CAA	GW	80-09-04	515	7.4	32.0	170	7	47	12	32
B-20-16 21BCB	SP	79-10-25	650	7.6	21.0	250	37	56	26	32
B-20-17 14BDC	SP	79-10-24	609	--	--	--	--	--	--	--
B-20-17 21AAA	SP	79-10-25	220	--	--	--	--	--	--	--
B-20-17 28BCC	GW	79-10-24	146	--	--	--	--	--	--	--
B-20-17 29DAA	GW	79-10-24	2630	--	--	--	--	--	--	--
B-20-18 04BBB	GW	80-09-03	540	7.6	37.5	130	6	29	13	49
B-20-19 33BCD	SP	79-10-11	377	--	--	--	--	--	--	--
B-21-17 02CCB	SP	79-10-09	524	--	--	--	--	--	--	--
B-21-17 10DAD	GW	79-10-09	550	--	21.0	--	--	--	--	--
B-21-18 05DBD	GW	80-09-05	810	7.8	36.0	170	72	41	16	82
B-21-18 09BBA	GW	80-09-05	715	7.4	36.0	160	39	39	15	78
B-21-18 30ABB	GW	80-09-03	457	7.7	37.5	120	0	30	11	37
B-21-18 32BBB	GW	80-09-03	480	7.6	38.0	130	9	31	13	37
B-21-18 32DCC	GW	80-09-03	530	7.6	37.0	150	46	35	14	36
B-21-19 07BDB	GW	80-09-04	910	7.5	22.0	220	0	63	14	110
B-21-19 12ACD	GW	80-05-21	755	--	--	--	--	--	--	--
B-21-20 02SDBC	SP	79-10-12	369	--	--	--	--	--	--	--
B-21-20 11ACB	SP	79-10-12	328	--	--	--	--	--	--	--
B-22-19 30CAB	SP	79-10-12	754	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
MCMULLEN VALLEY--CONTINUED										
B-07-09 09DBA	80-08-12	--	--	--	--	--	--	2.9	--	--
B-07-09 10AAA	80-05-15	3.4	3.1	--	--	27	33	2.9	25	276
B-07-09 10DAA	80-08-12	--	--	--	--	--	--	2.2	--	--
B-07-09 11AAA	80-05-15	2.9	3.2	--	--	30	32	2.9	28	287
B-07-09 11ABB	80-05-15	--	--	--	--	--	--	2.9	--	--
B-07-09 11ADD	80-08-14	--	--	--	--	--	--	3.2	--	--
B-07-09 12ADD	80-08-14	--	--	--	--	--	--	3.1	--	--
B-07-09 14AAB	80-08-14	--	--	--	--	--	--	2.6	--	--
B-07-09 15CDD	80-05-28	--	--	--	--	--	--	2.6	--	--
B-07-09 16ADD	80-08-14	--	--	--	--	--	--	2.5	--	--
B-07-09 17ADA	80-05-15	2.6	2.7	--	--	19	14	2.6	24	217
B-07-09 17DCD	80-05-28	--	--	--	--	--	--	2.6	--	--
B-07-09 20CAA	80-08-14	--	--	--	--	--	--	2.2	--	--
B-07-09 22DCC	80-08-14	--	--	--	--	--	--	2.8	--	--
B-07-09 24AAA	80-08-14	--	--	--	--	--	--	3.1	--	--
B-07-09 24BAA	80-05-15	--	--	--	--	--	--	3.2	--	--
B-07-09 25CCC	80-08-15	--	--	--	--	--	--	4.3	--	--
B-07-10 19DDD	80-05-28	5.4	2.1	--	--	21	22	2.1	16	257
B-07-10 21ACB	80-05-28	--	--	--	--	--	--	2.2	--	--
B-08-09 32AAA	80-05-28	16	1.3	--	--	51	76	2.0	18	340
B-08-09 32BAA	80-05-28	--	.5	--	--	45	49	3.8	24	156
PUERCO-ZUNI										
A-14-26 10CDC	80-04-30	6.1	20	--	--	600	650	2.1	10	2380
A-14-29 35CDC2	80-04-29	2.5	20	--	--	320	110	3.5	8.0	1180
	80-09-24	2.4	23	--	--	280	120	.4	11	1110
RANEGRAS PLAIN										
B-02-13 19DCC	80-08-16	15	6.6	--	--	180	87	8.2	36	580
B-02-14 10CDC	80-08-17	14	7.1	--	--	84	81	9.2	36	449
B-02-14 28CCC	80-08-17	4.1	4.3	--	--	130	120	.5	31	703
B-03-14 13ADD	80-08-22	3.8	4.3	--	--	180	180	2.6	29	740
B-03-15 02DAB	80-08-16	16	2.5	--	--	160	170	10	21	699
B-03-15 2DAC	80-08-12	21	1.1	--	--	120	180	12	20	618
B-04-15 09ADA	80-08-14	1.4	4.7	--	--	680	330	4.1	21	1660
B-04-15 28BBD	80-08-13	13	3.3	--	--	160	240	.5	32	793
B-04-16 09BDA	80-08-11	6.9	2.9	--	--	120	110	9.3	30	534
B-04-16 15ABC	80-08-15	11	1.6	--	--	120	110	7.9	13	458
B-04-16 18DCB	80-08-14	2.5	4.1	--	--	250	43	.9	34	643
B-05-14 30DDB2	80-08-09	5.7	7.6	--	--	310	150	1.2	22	868
B-05-16 09CBB	80-08-10	9.1	3.7	--	--	200	230	5.2	32	806
B-06-15 07AAC	80-08-09	5.3	5.8	--	--	150	130	3.8	32	596
B-06-15 08CCA	80-08-08	5.5	7.2	--	--	200	170	4.4	31	716
B-06-15 33BAB	80-08-11	9.5	7.4	--	--	200	210	.5	36	844
B-06-16 13DAC	80-08-09	6.3	8.0	--	--	290	220	3.3	30	915
B-06-16 17BAA	80-08-13	10	5.9	--	--	410	250	4.8	25	1110
B-06-16 32BBC	80-08-15	9.8	2.5	--	--	170	120	6.3	34	588
B-06-17 12DBB2	80-08-13	2.8	2.3	--	--	6.8	81	.8	37	477
B-07-17 23CDC2	80-08-21	7.0	7.0	--	--	150	210	4.2	34	800
B-07-17 35BCC	80-08-21	9.2	4.6	--	--	320	180	5.0	21	869
SACRAMENTO VALLEY										
B-15-17 07DCA	79-10-23	--	--	--	--	--	--	3.1	--	--
B-17-17 31WBDB	80-09-04	1.5	6.1	--	--	52	58	1.0	40	339
B-17-18 12ABD	80-09-04	1.2	3.7	--	--	25	45	1.3	30	270
B-17-18 12BCA	80-09-04	1.3	4.7	--	--	26	44	1.4	32	279
B-17-18 13AAA	79-10-24	--	--	--	--	--	--	.9	--	--
B-19-16 08ADC	79-10-25	--	--	--	--	--	--	1.3	--	--
B-19-16 09DCD	79-10-25	--	--	--	--	--	--	2.3	--	--
B-19-19 04ACB	79-10-11	--	--	--	--	--	--	.2	--	--
B-19-19 17CAA	80-09-04	1.1	8.1	--	--	23	30	.5	70	335
B-20-16 21BCB	79-10-25	.9	--	--	--	42	51	2.1	47	390
B-20-17 14BDC	79-10-24	--	--	--	--	--	--	.6	--	--
B-20-17 21AAA	79-10-25	--	--	--	--	--	--	2.2	--	--
B-20-17 28BCC	79-10-24	--	--	--	--	--	--	2.8	--	--
B-20-17 29DAA	79-10-24	--	--	--	--	--	--	2.1	--	--
B-20-18 04BBB	80-09-03	2.1	7.3	--	--	50	40	.6	45	320
B-20-19 33BCD	79-10-11	--	--	--	--	--	--	.3	--	--
B-21-17 02CCB	79-10-09	--	--	--	--	--	--	.3	--	--
B-21-17 10DAD	79-10-09	--	--	--	--	28	23	.4	--	--
B-21-18 05DBD	80-09-05	3.0	8.3	--	--	130	75	.6	35	460
B-21-18 09BBA	80-09-05	2.9	7.1	--	--	120	55	.6	29	423
B-21-18 30ABB	80-09-03	1.5	8.3	--	--	27	27	.8	61	292
B-21-18 32BBB	80-09-03	1.5	10	--	--	42	32	.8	62	313
B-21-18 32DCC	80-09-03	1.3	5.2	--	--	61	42	.7	34	300
B-21-19 07BDB	80-09-04	3.5	9.5	--	--	81	84	1.1	60	567
B-21-19 12ACD	80-05-21	--	--	--	--	--	--	.8	--	--
B-21-20 02SDBC	79-10-12	--	--	--	--	--	--	.4	--	--
B-21-20 11ACB	79-10-12	--	--	--	--	--	--	.3	--	--
B-22-19 30CAB	79-10-12	--	--	--	--	--	--	.7	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	SAMPLE NUMBER
MCMULLEN VALLEY--CONTINUED										
B-07-09 09D8A	80-08-12	--	--	--	--	--	--	--	--	1380
B-07-09 10AAA	80-05-15	.38	3.4	--	--	--	150	<10	<1	1380
B-07-09 10DAA	80-08-12	--	--	--	--	--	--	--	--	1380
B-07-09 11AAA	80-05-15	.39	2.9	--	--	--	150	<10	1	1380
B-07-09 11ABB	80-05-15	--	--	--	--	--	--	--	--	1380
B-07-09 11ADD	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-09 12ADD	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-09 14AAB	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-09 15CDD	80-05-28	--	--	--	--	--	--	--	--	1380
B-07-09 16ADD	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-09 17ADA	80-05-15	.30	1.6	--	6	--	120	<10	<1	1380
B-07-09 17DCD	80-05-28	--	--	--	--	--	--	--	--	1380
B-07-09 20CAA	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-09 22DCC	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-09 24AAA	80-08-14	--	--	--	--	--	--	--	--	1380
B-07-09 24BAA	80-05-15	--	--	--	--	--	--	--	--	1380
B-07-09 25CCC	80-08-15	--	--	--	--	--	--	--	--	1380
B-07-10 19DDD	80-05-28	.35	2.4	--	6	--	190	<10	<1	1380
B-07-10 21ACB	80-05-28	--	--	--	--	--	--	--	--	1380
B-08-09 32AAA	80-05-28	.46	4.6	--	--	--	220	10	<3	1380
B-08-09 32BAA	80-05-28	.21	3.1	--	17	--	210	<10	<1	1380
PUERCO-ZUNI										
A-14-26 10CDC	80-04-30	3.24	.06	--	--	--	640	100	110	1420
A-14-29 35CDC2	80-04-29	1.60	.02	--	--	--	480	4900	70	1420
	80-09-24	1.51	--	--	--	--	470	--	80	1420
RANEGRAS PLAIN										
B-02-13 19DCC	80-08-16	.79	2.8	--	97	--	950	59	9	1430
B-02-14 10CDC	80-08-17	.61	--	--	100	--	740	<10	7	1430
B-02-14 28CCC	80-08-17	.96	34	--	3	--	310	<10	20	1430
B-03-14 13ADD	80-08-22	1.01	3.1	--	1	--	440	<10	<1	1430
B-03-15 02DAB	80-08-16	.95	22	--	71	--	910	<10	1	1430
B-03-15 20AC	80-08-12	.84	6.0	--	52	--	690	40	3	1430
B-04-15 09ADA	80-08-14	2.26	10	--	78	--	1700	10	10	1430
B-04-15 28B8D	80-08-13	1.08	13	--	18	--	680	20	<1	1430
B-04-16 09BDA	80-08-11	.73	3.2	--	19	--	850	<10	1	1430
B-04-16 15ABC	80-08-15	.62	3.3	--	26	--	560	<10	2	1430
B-04-16 18DCB	80-08-14	.87	4.6	--	20	--	360	<10	2	1430
B-05-14 30DDB2	80-08-09	1.18	2.1	--	3	--	610	<10	3	1430
B-05-16 09CBB	80-08-10	1.10	4.4	--	28	--	790	<10	7	1430
B-06-15 07AAC	80-08-09	.81	3.0	--	7	--	450	<10	<1	1430
B-06-15 08CCA	80-08-08	.97	2.2	--	7	--	690	<10	<1	1430
B-06-15 33BAB	80-08-11	1.15	4.7	--	12	--	1000	<10	2	1430
B-06-16 13DAC	80-08-09	1.24	4.2	--	6	--	930	15	2	1430
B-06-16 17BAA	80-08-13	1.51	4.4	--	17	--	1200	<10	<1	1430
B-06-16 32B8C	80-08-15	.80	4.0	--	37	--	690	20	12	1430
B-06-17 12D8B2	80-08-13	.65	8.2	--	8	--	270	<10	3	1430
B-07-17 23CDC2	80-08-21	1.09	3.1	--	12	--	680	<10	<1	1430
B-07-17 35BCC	80-08-21	1.18	3.4	--	24	--	890	<10	<1	1430
SACRAMENTO VALLEY										
B-15-17 07DCA	79-10-23	--	--	--	--	--	--	--	--	1440
B-17-17 31WBD8	80-09-04	.46	2.1	--	5	--	130	<10	<1	1440
B-17-18 12A8D	80-09-04	.37	2.6	--	2	--	110	13	3	1440
B-17-18 12BCA	80-09-04	.38	3.1	--	3	--	120	16	2	1440
B-17-18 13AAA	79-10-24	--	--	--	--	--	--	--	--	1440
B-19-16 08ADC	79-10-25	--	--	--	--	--	--	--	--	1440
B-19-16 09DCD	79-10-25	--	--	--	--	--	--	--	--	1440
B-19-19 04ACB	79-10-11	--	--	--	--	--	--	--	--	1440
B-19-19 17CAA	80-09-04	.46	3.7	--	--	--	130	20	1	1440
B-20-16 21BCB	79-10-25	--	--	--	--	--	--	--	--	1440
B-20-17 14BDC	79-10-24	--	--	--	--	--	--	--	--	1440
B-20-17 21AAA	79-10-25	--	--	--	--	--	--	--	--	1440
B-20-17 28BCC	79-10-24	--	--	--	--	--	--	--	--	1440
B-20-17 29DAA	79-10-24	--	--	--	--	--	--	--	--	1440
B-20-18 04BBB	80-09-03	.44	3.4	--	7	--	130	<10	1	1440
B-20-19 33BCD	79-10-11	--	--	--	--	--	--	--	--	1440
B-21-17 02CCB	79-10-09	--	--	--	--	--	--	--	--	1440
B-21-17 10DAD	79-10-09	--	--	--	--	--	--	--	--	1440
B-21-18 05D8D	80-09-05	.63	1.9	--	7	--	150	18	9	1440
B-21-18 09BBA	80-09-05	.58	1.6	--	7	--	140	<10	2	1440
B-21-18 30ABB	80-09-03	.40	2.6	--	--	--	170	<10	2	1440
B-21-18 32BBB	80-09-03	.43	2.4	--	7	--	110	<10	2	1440
B-21-18 32DCC	80-09-03	.41	2.8	--	--	--	140	10	2	1440
B-21-19 07BDB	80-09-04	.77	4.1	--	5	--	430	32	2	1440
B-21-19 12ACD	80-05-21	--	--	--	--	--	--	--	--	1440
B-21-20 02S0BC	79-10-12	--	--	--	--	--	--	--	--	1440
B-21-20 11AC8	79-10-12	--	--	--	--	--	--	--	--	1440
B-22-19 30CAB	79-10-12	--	--	--	--	--	--	--	--	1440

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
SALT RIVER VALLEY										
A-01-01 21DDD2	GW	80-06-25	4430	7.0	22.0	1100	840	260	100	670
A-01-01 25DDD	GW	80-06-26	1100	--	--	81	0	19	8.1	220
A-01-01 26AAA	GW	80-07-03	3100	7.0	22.0	800	700	192	78	420
A-01-01 26BDB	GW	80-07-03	1390	--	--	360	220	74	42	230
A-01-01 26DDD	GW	80-06-30	1160	--	--	240	130	49	28	180
A-01-01 27CDD	GW	80-07-01	3500	7.4	22.0	890	740	221	82	500
A-01-01 33AAD	GW	80-06-19	3500	6.9	21.5	640	420	148	66	520
A-01-01 35ADB	GW	80-06-24	1560	7.0	22.0	500	370	110	53	230
A-01-01 35DCD2	GW	80-06-27	5800	7.1	24.0	910	730	220	87	520
A-01-01 36AAD	GW	80-06-24	3100	6.9	23.0	580	330	140	55	480
A-01-01 36DDA	GW	80-06-24	4400	6.9	21.5	680	340	150	75	740
A-01-02 13ABD2	GW	80-06-17	--	7.1	22.0	--	--	--	--	--
A-01-02 13CCC	GW	80-06-17	1510	7.0	23.5	360	0	87	35	270
A-01-02 13CDD2	GW	80-08-20	1410	6.8	23.0	350	27	84	33	260
A-01-02 13DAD	GW	80-08-20	1360	7.1	22.0	290	46	68	28	210
A-01-02 14AAD	GW	80-06-17	1660	7.1	23.0	480	140	120	43	280
A-01-02 14CCB	GW	80-06-16	1420	7.0	21.0	320	63	78	31	270
A-01-02 14CDD	GW	80-08-20	1180	7.1	23.5	260	30	63	25	200
A-01-02 15CAA	GW	80-06-18	1630	6.8	23.0	410	46	100	38	290
A-01-02 19CAD	GW	80-06-25	1350	7.1	20.5	230	0	54	24	240
A-01-02 20DCB	GW	80-07-02	--	--	--	190	0	48	18	180
A-01-02 21BAB	GW	80-06-18	1580	--	25.0	400	110	99	38	260
A-01-02 22ACA	GW	80-07-01	500	--	--	120	0	28	11	160
A-01-02 22BCC	GW	80-06-26	1310	--	23.0	310	170	64	37	200
A-01-02 24BBB2	GW	80-08-20	1100	7.1	22.0	230	13	55	23	200
A-01-02 26BAB	GW	80-06-20	1850	7.2	--	370	60	92	34	430
A-01-02 27BAC	GW	80-06-30	1680	--	--	290	43	71	28	400
A-01-02 28BCC	GW	80-06-20	1340	--	--	170	0	40	16	310
A-01-02 28CAD	GW	80-06-30	2900	--	--	390	34	95	38	510
A-01-02 30ADA	GW	80-06-20	1060	--	30.0	210	0	51	20	170
A-01-02 30BBB	GW	80-07-03	1150	--	--	220	0	53	22	240
A-01-02 30DDC	GW	80-06-24	1950	7.0	21.0	460	180	110	45	460
A-01-02 31AAA	GW	80-06-25	--	--	--	510	190	120	52	490
A-01-02 31DBB	GW	80-06-28	1550	7.6	34.0	310	190	81	25	230
A-01-02 32AAA2	GW	80-06-25	3200	7.0	23.0	620	320	150	59	490
A-01-02 32BAA	GW	80-06-28	3800	7.3	23.0	530	250	120	56	560
A-01-03 13DDA	GW	80-06-17	1550	7.0	23.5	380	72	78	45	260
A-01-03 18BBC	GW	80-07-02	--	7.6	23.0	260	7	65	24	220
A-01-03 20BAD	GW	80-06-16	--	7.3	23.5	270	16	60	28	240
A-01-04 02DBB	GW	80-06-05	--	7.6	26.0	320	200	66	37	160
A-01-04 18CCB	GW	80-06-13	--	6.9	33.2	400	0	65	58	330
A-01-05 14AAA	GW	80-07-15	--	7.7	39.0	130	--	42	5.4	250
A-01-05 26DDD	GW	80-06-02	--	--	--	--	--	--	--	--
A-01-05 27DCC	GW	80-06-04	--	--	--	--	--	--	--	--
A-01-05 34DDD	GW	80-06-02	--	--	--	--	--	--	--	--
A-01-06 35AAB	GW	80-07-15	--	8.3	38.0	67	1	24	1.6	160
A-01-06-32BBA	GW	80-06-04	--	7.3	24.5	360	220	96	30	200
A-01-07 26AAC2	GW	80-07-29	--	7.4	34.5	320	160	106	14	210
A-01-08 30DCC	GW	80-07-29	--	7.5	37.0	150	0	47	7.4	110
A-01-08 31DCB	GW	80-07-29	--	8.0	39.0	37	0	14	.5	110
A-02-01 26DAA	GW	80-06-24	1532	7.6	28.0	560	480	99	77	100
A-02-01 36DAD	GW	80-06-23	2250	7.2	26.0	560	310	110	68	250
A-02-02 03AAD	GW	80-06-19	1060	7.6	27.0	--	--	--	--	--
A-02-02 19CCB	GW	80-06-26	878	7.8	30.0	270	170	51	34	68
A-02-02 26BDC	GW	80-06-23	1300	7.6	24.0	240	41	43	32	180
A-02-06-27CBC	GW	80-06-03	--	--	--	170	0	43	14	150
A-03-02 04DAA	GW	80-04-07	--	--	--	110	0	22	14	52
A-03-05-28BCA	GW	80-05-23	--	8.0	--	14	0	4.9	.3	150
	GW	80-05-23	--	8.4	--	13	0	4.9	.2	160
	GW	80-05-23	--	7.8	--	--	--	--	--	--
A-04-04 26BCB	GW	80-06-13	620	7.6	35.0	180	0	36	21	59
B-01-01 03DDA	GW	80-08-08	1030	7.5	25.0	260	130	60	26	49
B-01-01 04AAB	GW	80-08-25	2100	6.9	24.0	780	610	180	80	210
B-01-01 04ACC	GW	80-08-12	1800	7.1	25.0	990	870	230	100	180
B-01-01 05BBB2	GW	80-08-14	1925	7.3	28.5	430	320	94	43	230
B-01-01 07ABA2	GW	80-08-25	2100	7.1	26.0	550	420	130	55	230
B-01-01 07BBB	GW	80-08-14	2600	7.0	26.5	760	630	180	75	290
B-01-01 10CBB	GW	80-08-12	1575	7.0	24.0	530	380	100	67	120

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
SALT RIVER VALLEY										
A-01-01 21DDD2	80-06-25	9.0	7.7	--	--	570	1200	.6	20	3010
A-01-01 25DDD	80-06-26	11	3.4	--	--	88	190	.6	26	689
A-01-01 26AAA	80-07-03	7.0	8.8	--	--	280	970	.2	24	1970
A-01-01 26BDB	80-07-03	5.5	6.6	--	--	76	470	.5	20	1010
A-01-01 26DDD	80-06-30	5.1	5.5	--	--	52	330	.5	21	736
A-01-01 27CDD	80-07-01	7.9	8.0	--	--	330	1100	.2	24	2390
A-01-01 35AAD	80-06-19	9.8	10	--	--	310	840	.5	29	2080
A-01-01 35ADB	80-06-24	5.0	6.8	--	--	110	580	.3	21	1200
A-01-01 35DCD2	80-06-27	8.2	8.9	--	--	350	1100	.4	29	2450
A-01-01 36AAD	80-06-24	8.7	8.3	--	--	340	760	.5	18	1990
A-01-01 36DDA	80-06-24	12	8.6	--	--	470	1000	.6	29	2760
A-01-02 13ABD2	80-06-17	--	--	--	--	--	--	--	--	--
A-01-02 13CCC	80-06-17	6.2	7.3	--	--	82	340	.5	24	1120
A-01-02 13CDD2	80-06-20	6.6	7.4	--	--	110	350	.5	25	1080
A-01-02 13DAD	80-06-20	5.9	5.9	--	--	100	290	.3	25	914
A-01-02 14AAD	80-06-17	5.6	7.4	--	--	140	410	.3	26	1260
A-01-02 14CCB	80-06-18	7.1	6.0	--	--	140	340	.5	27	1060
A-01-02 14CDD	80-08-20	5.4	5.0	--	--	130	240	.2	26	854
A-01-02 15CAA	80-06-18	6.5	6.5	--	--	140	390	.3	26	1220
A-01-02 19CAD	80-06-23	7.5	5.3	--	--	100	300	.5	24	904
A-01-02 20DCB	80-07-02	5.6	5.0	--	--	88	200	.5	30	711
A-01-02 21BAB	80-06-18	5.6	6.7	--	--	140	390	.5	27	1170
A-01-02 22ACA	80-07-01	6.5	5.6	--	--	78	150	.5	24	585
A-01-02 22BCC	80-06-26	4.9	5.7	--	--	67	390	.5	21	878
A-01-02 24BBB2	80-08-20	6.2	5.6	--	--	110	250	.4	24	820
A-01-02 26BAB	80-06-20	9.7	7.0	--	--	230	550	.4	24	1570
A-01-02 27BAC	80-06-30	10	6.4	--	--	210	460	.5	28	1410
A-01-02 28BCC	80-06-20	10	4.7	--	--	130	280	.6	25	1000
A-01-02 28CAD	80-06-30	11	7.4	--	--	220	670	.5	28	1840
A-01-02 30ADA	80-06-20	5.1	8.3	--	--	77	200	.6	28	688
A-01-02 30BBB	80-07-03	7.0	5.2	--	--	99	250	.4	24	862
A-01-02 30DDC	80-06-24	9.5	6.8	--	--	200	640	.4	27	1740
A-01-02 31AAA	80-06-23	9.4	7.5	--	--	230	730	.5	21	1910
A-01-02 31DBB	80-06-28	6.2	6.7	--	--	130	430	.4	20	1000
A-01-02 32AAA2	80-06-23	8.6	7.5	--	--	260	710	.5	19	1940
A-01-02 32BAA	80-06-28	11	8.1	--	--	300	800	.5	30	2090
A-01-03 13DDA	80-06-17	6.5	7.7	--	--	110	370	.3	29	1110
A-01-03 18BBC	80-07-02	6.5	5.6	--	--	98	270	.4	25	871
A-01-03 20BAD	80-06-16	7.0	6.0	--	--	120	290	.2	26	935
A-01-04 02DBB	80-06-05	4.3	5.9	--	--	93	300	.2	29	781
A-01-04 18CCB	80-06-13	6.2	9.7	--	--	43	390	.5	31	1220
A-01-05 14AAA	80-07-15	10	4.3	--	--	64	350	2.0	30	805
A-01-05 26DDD	80-06-02	--	--	--	--	--	--	--	--	--
A-01-05 27DCC	80-06-04	--	--	--	--	--	--	--	--	--
A-01-05 34DDD	80-06-02	--	--	--	--	--	--	--	--	--
A-01-06 35AAB	80-07-15	8.7	4.5	--	--	44	220	1.2	29	542
A-01-06-32BBA	80-06-04	4.9	5.8	--	--	87	390	.1	35	953
A-01-07 26AAC2	80-07-29	5.5	17	--	--	43	410	.7	49	956
A-01-08 30DCC	80-07-29	4.1	15	--	--	29	150	.9	46	517
A-01-08 31DCB	80-07-29	7.9	3.6	--	--	45	64	1.2	38	361
A-02-01 26DAA	80-06-24	1.8	5.8	--	--	100	420	.3	21	899
A-02-01 36DAD	80-06-23	5.2	6.1	--	--	130	470	.2	24	1270
A-02-02 03AAD	80-06-19	--	--	--	--	--	--	--	--	--
A-02-02 19CCB	80-06-26	1.6	4.3	--	--	49	140	.5	5.0	519
A-02-02 26BDC	80-06-23	5.7	3.4	--	--	86	250	.5	22	763
A-02-06-27CBC	80-06-03	5.1	4.0	--	--	57	170	.4	24	583
A-03-02 04DAA	80-04-07	2.1	4.4	--	--	36	51	1.2	.7	261
A-03-05-28BCA	80-05-23	18	3.2	--	--	46	61	4.5	31	420
	80-05-23	19	2.9	--	--	64	58	7.0	31	451
	80-05-23	--	--	--	--	--	--	--	--	--
A-04-04 26BCB	80-06-13	2.2	2.8	--	--	19	72	.7	38	368
B-01-01 03DDA	80-08-08	1.5	3.5	--	--	70	120	.3	24	453
B-01-01 04AAB	80-08-25	3.5	6.2	--	--	320	520	.6	28	1500
B-01-01 04ACC	80-08-12	2.7	7.1	--	--	440	560	.6	26	1670
B-01-01 05BBB2	80-08-14	5.3	6.3	--	--	210	430	1.4	20	1150
B-01-01 07ABA2	80-08-25	4.3	5.7	--	--	310	410	.8	22	1290
B-01-01 07BBB	80-08-14	5.0	8.1	--	--	410	600	.6	21	1730
B-01-01 10CBB	80-08-12	2.3	5.6	--	--	210	280	.2	25	960

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	SAMPLE NUMBER
SALT RIVER VALLEY										
A-01-01 21DDD2	80-06-25	4.09	9.8	--	5	--	1200	30	10	1460
A-01-01 25DDD	80-06-26	.94	1.6	--	--	--	560	<10	10	1460
A-01-01 26AAA	80-07-03	2.68	6.7	--	4	--	640	<10	<1	1460
A-01-01 26BDB	80-07-03	1.37	2.5	--	--	--	150	40	2	1460
A-01-01 26DDD	80-06-30	1.00	.94	--	--	--	170	20	4	1460
A-01-01 27CDD	80-07-01	3.25	6.6	--	0	--	580	<10	<1	1460
A-01-01 33AAD	80-06-19	2.83	4.7	--	5	--	700	<10	<1	1460
A-01-01 35ADB	80-06-24	1.63	3.0	--	3	--	170	<10	<1	1460
A-01-01 35DCD2	80-06-27	3.33	5.9	--	5	--	1000	<10	<1	1460
A-01-01 36AAD	80-06-24	2.71	9.1	--	--	--	1600	20	0	1460
A-01-01 36DDA	80-06-24	3.75	17	--	9	--	10000	20	10	1460
A-01-02 13ABD2	80-06-17	--	--	--	--	--	--	--	--	1460
A-01-02 13CCC	80-06-17	1.52	2.9	--	--	--	640	10	150	1460
A-01-02 13CDD2	80-06-20	1.47	2.9	--	7	--	610	<10	120	1460
A-01-02 13DAD	80-08-20	1.24	3.5	--	6	--	410	<10	<1	1460
A-01-02 14AAD	80-06-17	1.71	5.3	--	--	--	450	10	10	1460
A-01-02 14CCB	80-06-18	1.44	1.3	--	6	--	280	<10	<1	1460
A-01-02 14CDD	80-08-20	1.16	5.9	--	--	--	570	<10	<1	1460
A-01-02 15CAA	80-06-18	1.66	9.4	--	--	--	800	20	10	1460
A-01-02 19CAD	80-06-23	1.23	1.1	--	6	--	530	<10	<1	1460
A-01-02 20DCB	80-07-02	.97	1.9	--	--	--	580	30	10	1460
A-01-02 21BAB	80-06-18	1.59	6.8	--	--	--	670	60	10	1460
A-01-02 22ACA	80-07-01	.80	5.6	--	--	--	470	60	10	1460
A-01-02 22BCC	80-06-26	1.19	2.0	--	--	--	130	<10	2	1460
A-01-02 24BBB2	80-08-20	1.12	4.2	--	6	--	540	<10	21	1460
A-01-02 26BAB	80-06-20	2.14	7.9	--	--	--	1400	110	10	1460
A-01-02 27BAC	80-06-30	1.92	12	--	--	--	1000	50	10	1460
A-01-02 28BCC	80-06-20	1.36	5.5	--	--	--	1000	10	2	1460
A-01-02 28CAD	80-06-30	2.50	11	--	--	--	1400	120	10	1460
A-01-02 30ADA	80-06-20	.94	1.4	--	--	--	530	<10	120	1460
A-01-02 30BBB	80-07-03	1.17	2.6	--	--	--	580	20	1	1460
A-01-02 30DDC	80-06-24	2.37	10	--	--	--	700	50	0	1460
A-01-02 31AAA	80-06-23	2.60	14	--	6	--	1500	10	10	1460
A-01-02 31DBB	80-06-28	1.36	.64	--	4	--	290	13	4	1460
A-01-02 32AAA2	80-06-23	2.64	13	--	6	--	1600	20	10	1460
A-01-02 32BAA	80-06-28	2.84	9.6	--	--	--	1900	20	<1	1460
A-01-03 13DDA	80-06-17	1.51	4.9	--	6	--	220	<10	<1	1460
A-01-03 18BBC	80-07-02	1.18	3.0	--	7	--	350	<10	<1	1460
A-01-03 20BAD	80-06-16	1.27	3.1	--	6	--	300	<10	<1	1460
A-01-04 02DBB	80-06-05	1.06	3.7	--	5	--	180	22	2	1460
A-01-04 18CCB	80-06-13	1.66	.12	--	10	--	1400	28	15	1460
A-01-05 14AAA	80-07-15	--	.91	--	18	--	290	15	<1	1460
A-01-05 26DDD	80-06-02	--	--	--	--	--	--	--	--	1460
A-01-05 27DCC	80-06-04	--	--	--	--	--	--	--	--	1460
A-01-05 34DDD	80-06-02	--	--	--	--	--	--	--	--	1460
A-01-06 35AAB	80-07-15	.74	3.9	--	14	--	200	<10	<1	1460
A-01-06-32BBA	80-06-04	1.30	5.3	--	1	--	300	34	4	1460
A-01-07 26AAC2	80-07-29	1.30	1.6	--	12	--	490	<10	<1	1460
A-01-08 30DCC	80-07-29	.70	1.7	--	15	--	450	11	<1	1460
A-01-08 31DCB	80-07-29	.49	1.3	--	18	--	360	12	<1	1460
A-02-01 26DAA	80-06-24	1.22	6.1	--	3	--	80	<10	<1	1460
A-02-01 36DAD	80-06-23	1.73	12	--	3	--	370	<10	<1	1460
A-02-02 03AAD	80-06-19	--	--	--	--	--	--	--	--	1460
A-02-02 19CCB	80-06-26	.71	23	--	4	--	130	5000	5	1460
A-02-02 26BDC	80-06-23	1.04	5.4	--	5	--	420	<10	2	1460
A-02-06-27CBC	80-06-03	.79	1.4	--	13	--	140	<10	<3	1460
A-03-02 04DAA	80-04-07	.36	1.6	--	10	--	190	<10	<1	1460
A-03-05-28BCA	80-05-23	.57	.74	--	110	--	340	86	17	1460
	80-05-23	.61	.47	--	160	--	590	30	10	1460
	80-05-23	--	--	--	20	--	--	--	--	1460
A-04-04 26BCB	80-06-13	.50	1.0	--	8	--	130	11	15	1460
B-01-01 03DDA	80-08-08	.62	4.8	--	7	--	130	<10	<1	1460
B-01-01 04AAB	80-08-25	2.04	11	--	--	--	450	40	10	1460
B-01-01 04ACC	80-08-12	2.27	12	--	4	--	270	<10	<1	1460
B-01-01 05BBB2	80-08-14	1.56	10	--	7	--	370	<10	<1	1460
B-01-01 07ABA2	80-08-25	1.75	10	--	--	--	630	40	10	1460
B-01-01 07BBB	80-08-14	2.35	15	--	4	--	770	<10	<1	1460
B-01-01 10CBB	80-08-12	1.31	14	--	--	--	410	30	5	1460

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
SALT RIVER VALLEY--CONTINUED										
B-01-01 10CCD	GW	80-08-11	1375	7.0	26.0	570	470	130	58	60
B-01-01 17BCB	GW	80-08-29	2900	6.8	25.0	1200	1000	261	120	210
B-01-01 18BAA	GW	80-08-12	3400	7.0	26.5	820	720	190	85	410
B-01-01 19CBA	GW	80-08-29	5100	6.7	23.0	1500	1200	350	150	650
B-01-01 19CCC	GW	80-08-13	590	8.5	29.5	40	0	11	2.9	120
B-01-01 21ABA	GW	80-08-11	4750	6.6	25.5	2000	1800	460	200	440
B-01-01 22BAB	GW	80-08-29	4400	6.5	25.5	1800	1700	420	190	260
B-01-01 28CDC	GW	80-08-26	3300	7.0	22.0	630	360	130	74	520
B-01-01 29DBC	GW	80-08-26	4200	6.7	24.0	850	760	190	91	670
B-01-01 30DBB	GW	80-09-03	2800	7.2	25.0	730	460	190	62	410
B-01-02 03DCC	GW	80-08-25	1740	7.2	29.0	450	350	100	48	160
B-01-02 08DAD	GW	80-08-15	2600	7.8	44.5	210	150	69	8.3	420
B-01-02 09ADA2	GW	80-08-15	2900	7.3	32.0	900	790	200	96	290
B-01-02 11BAA	GW	80-08-14	2600	7.0	27.0	900	780	210	90	250
B-01-02 11BCC	GW	80-08-25	4200	7.3	40.0	470	400	120	40	630
B-01-02 13DCD	GW	80-08-21	4750	7.0	24.0	1600	1500	380	150	690
B-01-02 14BAA	GW	80-08-22	3100	--	25.5	1000	880	250	98	400
B-01-02 14DDB	GW	80-08-22	4800	--	24.5	1600	1400	390	150	750
B-01-02 15BBB	GW	80-08-21	3300	7.1	26.0	1300	1300	295	140	300
B-01-02 15CCC	GW	80-08-21	3700	7.0	24.0	1200	970	280	110	500
B-01-02 20BBB	GW	80-08-19	4800	7.3	25.5	1300	1100	280	140	700
B-01-02 21BBB2	GW	80-08-22	3900	--	25.0	1100	870	230	120	600
B-01-02 21DCA3	GW	80-08-21	3100	8.0	34.5	150	92	53	2.8	590
B-01-02 23AAB	GW	80-08-13	5900	6.7	24.5	2000	1800	470	190	790
B-01-02 25BBC	GW	80-08-29	4900	6.5	24.0	1500	1100	290	140	840
B-01-02 25CBB	GW	80-08-18	2200	7.3	29.0	450	300	120	37	330
B-01-02 25DBB1	GW	80-08-18	2100	7.0	23.0	550	320	130	54	280
B-01-02 27CAA	GW	80-08-26	5400	6.8	22.0	1600	1400	370	160	750
B-01-02 27DAD	GW	80-08-18	3700	6.8	24.0	910	790	210	92	580
B-01-02 28CBD	GW	80-08-22	5400	--	22.0	1300	1000	270	140	1000
B-01-02 29CCC	GW	80-08-18	4600	6.9	23.0	1100	860	260	120	780
B-01-02 29DDB	GW	80-08-22	4900	--	22.0	1200	910	270	120	860
B-02-01 19DBB2	GW	80-04-08	1550	7.9	29.0	330	240	73	35	170
B-02-02 14ABB	GW	80-06-18	498	8.3	33.0	44	--	11	4.0	95
B-02-02 27AAA	GW	80-06-18	561	8.6	--	100	10	25	9.6	84
B-02-02 34BAA	GW	80-04-08	435	9.3	43.0	14	0	3.9	1.0	88
B-03-01 27AAB	GW	79-10-01	520	--	37.0	19	0	4.3	.8	120
B-03-02 01AAA	GW	80-06-23	418	8.0	30.0	84	0	18	9.4	52
B-03-02 36BAA	GW	80-06-18	389	8.2	32.0	33	0	8.0	3.0	71
B-04-01 19BCD	GW	80-06-19	473	8.0	31.0	--	--	--	--	--
B-04-02 25BAA	GW	80-06-23	332	8.1	31.0	56	0	12	6.3	50
B-04-02 34DBA	GW	80-06-23	358	8.0	27.0	85	0	19	9.0	35
B-04-02 36BAA	GW	80-06-19	423	7.9	29.0	88	0	19	9.9	48
C-01-02 05BAD	GW	80-08-22	2900	--	21.0	420	150	98	43	370
C-01-02 06ADD	GW	80-08-22	2600	--	21.0	480	210	110	51	420
D-01-01 02BBC	GW	80-06-27	4200	7.1	23.5	810	510	200	76	650
D-01-01 03BAA	GW	80-06-25	600	6.6	24.5	1300	1100	290	130	810
D-01-04 09BDD	GW	80-07-10	--	7.1	24.0	620	480	158	55	370
D-01-05 04CCC2	GW	80-07-10	--	7.9	32.0	90	0	25	7.7	180
D-01-05 10DDD2	GW	80-07-30	--	7.1	23.0	820	530	205	75	430
D-01-05 19CCC	GW	80-07-31	--	7.1	22.0	540	300	129	53	490
	GW	80-08-05	2210	6.9	22.0	540	210	130	52	480
D-01-05 21BDC	GW	80-08-05	1150	7.8	30.5	110	27	26	11	200
D-01-05 23BDA	GW	80-07-23	--	7.9	31.0	240	170	59	23	210
D-01-05 24CDC	GW	80-07-31	--	7.1	23.5	650	430	183	47	200
D-01-05 27DCB	GW	80-07-08	1310	7.7	32.0	240	150	53	25	240
D-01-05 28DCA	GW	80-07-17	--	--	--	210	120	44	23	200
D-01-05 29DBC	GW	80-07-26	1390	7.7	31.0	170	85	40	18	230
D-01-05 33ACD	GW	80-08-07	1340	7.4	31.5	200	130	45	22	230
D-01-05 34AAB	GW	80-07-17	--	--	--	720	610	180	64	300
D-01-05 34BBD	GW	80-07-15	1950	7.5	31.5	270	190	62	27	250
D-01-06 07DDC	GW	80-06-03	--	--	--	--	--	--	--	--
D-01-06-08DDD	GW	80-06-03	--	--	--	830	640	240	56	230
D-02-04 01AAA	GW	80-08-05	3775	6.9	23.0	1100	1000	300	83	880
D-02-04 01BAA	GW	80-07-29	4200	6.9	23.0	930	850	250	75	990
D-02-04 01BBA	GW	80-07-29	2640	7.0	23.0	760	680	180	75	420
D-02-04 04BAB	GW	80-08-06	905	7.6	23.0	200	110	42	23	140
D-02-04 04BBAB	GW	80-08-06	915	7.7	28.0	170	90	38	18	160
D-02-04 08ABC	GW	80-08-07	3700	7.0	24.0	1200	1000	310	110	710
D-02-04 08DBA	GW	80-08-07	4650	7.0	26.0	2500	2300	680	180	550

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
SALT RIVER VALLEY--CONTINUED										
B-01-01 10CCD	80-08-11	1.2	4.8	--	--	110	310	.2	26	797
B-01-01 17BCB	80-08-29	3.0	8.1	--	--	660	580	.4	28	2010
B-01-01 18BAA	80-08-12	6.2	7.7	--	--	640	700	.7	26	2170
B-01-01 19CBA	80-08-29	7.3	10	--	--	690	1400	.7	28	3490
B-01-01 19CCC	80-08-13	8.9	2.1	--	--	80	65	1.3	19	381
B-01-01 21ABA	80-08-11	4.3	4.7	--	--	540	1500	.1	29	3350
B-01-01 22BAB	80-08-29	2.8	12	--	--	470	1300	.1	31	2820
B-01-01 28CDC	80-08-26	10	7.1	--	--	300	870	.3	28	2120
B-01-01 29DAC	80-08-26	11	8.5	--	--	420	1200	.4	31	2710
B-01-01 30DBB	80-09-03	7.1	6.6	--	--	290	750	.5	27	1920
B-01-02 03DCC	80-08-25	3.3	5.7	--	--	230	330	1.0	19	997
B-01-02 08DAD	80-08-15	13	4.4	--	--	150	660	.3	24	1380
B-01-02 09ADA2	80-08-15	4.6	8.9	--	--	470	630	1.4	21	1840
B-01-02 11BAA	80-08-14	4.0	6.8	--	--	350	680	.4	21	1760
B-01-02 11BCC	80-08-25	14	5.3	--	--	400	960	.6	23	2250
B-01-02 13DCD	80-08-21	7.6	9.5	--	--	1300	1200	.4	27	3890
B-01-02 14BAA	80-08-22	5.9	8.2	--	--	550	820	.3	21	2310
B-01-02 14DDB	80-08-22	8.2	12	--	--	1300	1200	.5	22	3940
B-01-02 15BBB	80-08-21	4.0	9.0	--	--	750	820	.2	21	2550
B-01-02 15CCC	80-08-21	6.4	8.1	--	--	680	1000	.4	22	2790
B-01-02 20BBB	80-08-19	9.4	9.8	--	--	1100	1100	1.5	22	3560
B-01-02 21BBB2	80-08-22	8.8	9.7	--	--	510	1100	1.1	21	2820
B-01-02 21DCA3	80-08-21	22	6.9	--	--	290	790	2.4	32	1830
B-01-02 23AAB	80-08-13	8.5	13	--	--	1400	1500	.4	23	4560
B-01-02 25BBC	80-08-29	11	9.4	--	--	800	1400	1.1	31	3730
B-01-02 25CBB	80-08-18	7.3	6.6	--	--	210	570	1.6	27	1430
B-01-02 25DBB1	80-08-18	5.2	6.4	--	--	240	510	.6	28	1430
B-01-02 27CAA	80-08-26	8.2	9.9	--	--	1000	1400	.9	36	3930
B-01-02 27DAD	80-08-18	9.2	10	--	--	620	1100	1.0	38	2790
B-01-02 28CBD	80-08-22	14	9.6	--	--	750	1800	1.1	33	4240
B-01-02 29CCC	80-08-18	11	9.1	--	--	600	1300	1.5	34	3350
B-01-02 29DDB	80-08-22	11	10	--	--	700	1400	1.2	33	3560
B-02-01 19DBB2	80-04-08	4.1	5.0	--	--	190	300	1.5	.8	864
B-02-02 14ABB	80-06-18	6.8	1.6	--	--	56	59	1.4	17	315
B-02-02 27AAA	80-06-18	3.6	2.7	--	--	57	76	3.3	23	367
B-02-02 34BAA	80-04-08	10	1.0	--	--	56	26	5.5	1.9	246
B-03-01 27AAB	79-10-01	9.9	2.6	--	--	--	--	--	24	292
B-03-02 01AAA	80-06-25	2.5	2.5	--	--	34	31	.6	18	254
B-03-02 36BAA	80-06-18	5.9	1.6	--	--	31	29	.8	16	241
B-04-01 19BCD	80-06-19	--	--	--	--	--	--	--	--	--
B-04-02 25BAA	80-06-23	3.2	2.7	--	--	25	25	.7	18	219
B-04-02 34DBA	80-06-23	1.8	2.8	--	--	23	24	.6	18	207
B-04-02 36BAA	80-06-19	2.2	2.7	--	--	37	30	.6	19	251
C-01-02 05BAD	80-08-22	8.6	5.6	--	--	220	510	1.4	36	1490
C-01-02 06ADD	80-08-22	8.3	6.2	--	--	270	610	1.6	39	1720
D-01-01 02BBC	80-06-27	9.9	6.7	--	--	400	1100	.5	23	2670
D-01-01 03BAA	80-06-25	11	11	--	--	580	1700	.3	26	3670
D-01-04 09BDD	80-07-10	7.0	7.5	--	--	310	680	.2	22	1720
D-01-05 04CCC2	80-07-10	8.9	4.6	--	--	42	260	2.0	20	596
D-01-05 10DDD2	80-07-30	7.1	7.8	--	--	300	810	.2	30	2040
D-01-05 19CCC	80-07-31	10	6.2	--	--	250	700	.2	31	1850
	80-08-05	9.0	6.3	--	--	240	700	.2	28	1850
D-01-05 21BDC	80-08-05	9.1	4.5	--	--	55	320	1.1	20	691
D-01-05 23BDA	80-07-23	6.4	6.8	--	--	89	380	.5	30	864
D-01-05 24CDC	80-07-31	3.6	7.2	--	--	170	450	.4	39	1230
D-01-05 27DCB	80-07-08	7.5	6.0	--	--	99	420	.8	24	941
D-01-05 28DCA	80-07-17	6.7	6.4	--	--	60	360	.7	24	780
D-01-05 29DBC	80-07-26	8.3	4.7	--	--	74	390	1.0	20	843
D-01-05 33ACD	80-08-07	7.7	5.6	--	--	88	390	.8	23	864
D-01-05 34AAB	80-07-17	5.3	7.0	--	--	300	650	.4	32	1650
D-01-05 34BBD	80-07-15	7.3	6.0	--	--	120	430	.7	24	1010
D-01-06 07DDC	80-06-03	--	--	--	--	--	--	--	--	--
D-01-06-08DDD	80-06-03	3.5	13	--	--	230	540	.5	44	1570
D-02-04 01AAA	80-08-05	12	13	--	--	630	1500	.5	21	3530
D-02-04 01BAA	80-07-29	14	13	--	--	640	1700	.4	37	3820
D-02-04 01BBA	80-07-29	6.6	9.5	--	--	250	920	.3	30	1970
D-02-04 04BAB	80-08-06	4.3	4.7	--	--	37	280	.3	25	610
D-02-04 04BBAB	80-08-06	5.9	4.6	--	--	48	300	.4	22	644
D-02-04 08ABC	80-08-07	8.8	7.3	--	--	520	1500	.2	30	3370
D-02-04 08DBA	80-08-07	5.2	5.4	--	--	620	2100	.4	36	4310

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SAMPLE NUMBER
SALT RIVER VALLEY--CONTINUED										
B-01-01 10CCD	80-08-11	1.06	8.1	--	4	--	100	<10	<1	1460
B-01-01 17BCB	80-08-29	2.73	11	--	3	--	880	<10	<1	1460
B-01-01 18BAA	80-08-12	2.95	12	--	--	--	1300	40	10	1460
B-01-01 19CBA	80-08-29	4.75	13	--	--	--	1700	60	20	1460
B-01-01 19CCC	80-08-13	.52	1.5	--	18	--	390	14	4	1460
B-01-01 21ABA	80-08-11	4.56	12	--	--	--	1300	40	20	1460
B-01-01 22BAB	80-08-29	3.84	13	--	--	--	980	70	30	1460
B-01-01 28CDC	80-08-26	2.88	6.6	--	3	--	680	<10	1	1460
B-01-01 29DBC	80-08-26	3.69	9.4	--	8	--	1200	<10	<1	1460
B-01-01 30DBB	80-09-03	2.61	9.7	--	8	--	920	<10	<1	1460
B-01-02 03DCC	80-08-25	1.36	9.7	--	--	--	490	20	<1	1460
B-01-02 08DAD	80-08-15	1.88	2.1	--	16	--	910	<10	<1	1460
B-01-02 09ADA2	80-08-15	2.50	12	--	3	--	1600	<10	<1	1460
B-01-02 11BAA	80-08-14	2.39	16	--	4	--	1200	13	<4	1460
B-01-02 11BCC	80-08-25	3.06	5.9	--	56	--	1700	<10	<1	1460
B-01-02 13DCD	80-08-21	5.29	16	--	--	--	2400	30	10	1460
B-01-02 14BAA	80-08-22	3.14	16	--	2	--	1400	<10	<1	1460
B-01-02 14DDB	80-08-22	5.36	2.2	--	--	--	2700	60	10	1460
B-01-02 15BBB	80-08-21	3.47	20	--	1	--	1700	<10	<1	1460
B-01-02 15CCC	80-08-21	3.79	19	--	--	--	1600	50	10	1460
B-01-02 20BBB	80-08-19	4.84	21	--	4	--	4700	<10	1	1460
B-01-02 21BBB2	80-08-22	3.84	21	--	3	--	2800	<10	<1	1460
B-01-02 21DCA3	80-08-21	2.49	5.4	--	27	--	820	<10	<1	1460
B-01-02 23AAB	80-08-13	6.20	13	--	3	--	2700	14	<1	1460
B-01-02 25BBC	80-08-29	5.07	15	--	5	--	1900	<10	<1	1460
B-01-02 25CBB	80-08-18	1.94	7.3	--	19	--	580	<10	<1	1460
B-01-02 25DBB1	80-08-18	1.94	10	--	--	--	180	30	10	1460
B-01-02 27CAA	80-08-26	5.34	16	--	--	--	1800	40	10	1460
B-01-02 27DAD	80-08-18	3.79	14	--	7	--	1800	<10	<1	1460
B-01-02 28CBD	80-08-22	5.77	16	--	8	--	1500	43	<1	1460
B-01-02 29CCC	80-08-18	4.56	14	--	8	--	1100	<10	<1	1460
B-01-02 29DDB	80-08-22	4.84	1.7	--	--	--	2000	40	10	1460
B-02-01 19DBB2	80-04-08	1.18	7.1	--	4	--	210	<10	<1	1460
B-02-02 14ABB	80-06-18	--	4.7	--	31	--	130	<10	<1	1460
B-02-02 27AAA	80-06-18	.50	6.9	--	23	--	150	<10	<3	1460
B-02-02 34BAA	80-04-08	.33	.74	--	47	--	210	<10	<1	1460
B-03-01 27AAB	79-10-01	.40	--	--	--	--	--	86	5	1460
B-03-02 01AAA	80-06-23	.35	5.0	--	5	--	90	<10	<1	1460
B-03-02 36BAA	80-06-18	.33	3.2	--	16	--	60	<10	<1	1460
B-04-01 19BCD	80-06-19	--	--	--	--	--	--	--	--	1460
B-04-02 25BAA	80-06-23	.30	1.5	--	7	--	70	17	1	1460
B-04-02 34DBA	80-06-23	.28	1.9	--	3	--	20	<10	1	1460
B-04-02 36BAA	80-06-19	.34	4.5	--	4	--	90	<10	<3	1460
C-01-02 05BAD	80-08-22	2.03	9.9	--	12	--	720	10	<1	1460
C-01-02 06ADD	80-08-22	2.34	12	--	--	--	780	30	0	1460
D-01-01 02BBC	80-06-27	3.63	7.9	--	6	--	1300	30	0	1460
D-01-01 03BAA	80-06-25	4.99	5.6	--	3	--	730	<10	110	1460
D-01-04 09BDD	80-07-10	2.34	7.0	--	3	--	910	50	2	1460
D-01-05 04CCC2	80-07-10	.81	.58	--	37	--	280	<10	2	1460
D-01-05 10DDD2	80-07-30	2.77	.02	--	5	--	1200	23	<1	1460
D-01-05 19CCC	80-07-31	2.52	10	--	8	--	1200	<10	<1	1460
	80-08-05	2.52	3.9	--	--	--	1200	10	10	1460
D-01-05 21BDC	80-08-05	.94	.55	--	9	--	270	<10	<1	1460
D-01-05 23BDA	80-07-23	1.18	4.4	--	8	--	190	<10	2	1460
D-01-05 24CDC	80-07-31	1.67	.01	--	3	--	80	<10	<1	1460
D-01-05 27DCB	80-07-08	1.28	4.0	--	7	--	260	31	<1	1460
D-01-05 28DCA	80-07-17	1.06	2.0	--	9	--	180	<10	<1	1460
D-01-05 29DBC	80-07-26	1.15	2.2	--	9	--	290	<10	<1	1460
D-01-05 33ACD	80-08-07	1.18	2.7	--	9	--	190	<10	1	1460
D-01-05 34AAB	80-07-17	2.24	11	--	3	--	650	<20	<2	1460
D-01-05 34BBD	80-07-15	1.37	9.4	--	7	--	130	<10	<1	1460
D-01-06 07DDC	80-06-03	--	--	--	--	--	--	--	--	1460
D-01-06-08DDD	80-06-03	2.14	22	--	2	--	1900	160	20	1460
D-02-04 01AAA	80-08-05	4.80	10	--	3	--	1700	<10	<1	1460
D-02-04 01BAA	80-07-29	5.20	13	--	--	--	2300	130	10	1460
D-02-04 01BBA	80-07-29	2.68	8.8	--	--	--	670	90	10	1460
D-02-04 04BAB	80-08-06	.83	.61	--	--	--	150	1100	60	1460
D-02-04 04BBAB	80-08-06	.88	.83	--	7	--	110	<10	<1	1460
D-02-04 08ABC	80-08-07	4.58	13	--	--	--	1400	30	10	1460
D-02-04 08DBA	80-08-07	5.86	11	--	3	--	670	<10	2	1460

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
SALT RIVER VALLEY--CONTINUED										
D-02-04 11CAB	GW	80-08-01	4990	7.0	28.0	2100	2000	590	160	600
D-02-04 11DDA	GW	80-07-31	5010	7.0	27.0	2400	2400	640	200	590
D-02-04 12ACB	GW	80-08-01	1820	7.5	30.0	510	430	120	51	220
D-02-04 12DBB	GW	80-08-01	3410	7.2	29.0	1600	1500	436	130	290
D-02-04 13ADA	GW	80-08-04	4600	6.9	29.5	2000	1900	520	160	570
D-02-04 13ADD	GW	80-08-04	5250	6.7	25.5	2500	2400	690	190	570
D-02-04 14AAD	GW	80-07-31	6880	7.0	24.5	3500	3400	1000	250	710
D-02-04 14ABC	GW	80-07-31	4200	6.6	28.0	1900	1900	530	150	460
	GW	80-08-03	--	--	--	--	--	--	--	--
D-02-04 24DAA	GW	80-07-14	5900	6.8	24.0	1200	1100	330	93	940
D-02-04 25ACB	GW	80-07-31	1775	7.3	29.0	430	340	112	36	270
D-02-04 25DDD	GW	80-07-14	3950	6.8	30.0	1200	970	330	80	510
D-02-05 04BBC	GW	80-07-16	2875	7.0	23.5	610	650	220	63	340
D-02-05 04CAD	GW	80-07-21	2550	6.8	24.0	1100	960	310	85	240
D-02-05 04CBC2	GW	80-07-18	3000	7.1	24.0	990	820	270	76	260
D-02-05 04DDA	GW	80-06-05	--	7.2	30.5	870	640	220	78	290
D-02-05 09BAA	GW	80-08-05	3010	6.6	23.0	1600	1400	440	110	360
D-02-05 09BBB3	GW	80-07-21	2675	6.9	23.5	1100	970	310	89	260
D-02-05 09BBC2	GW	80-07-26	2775	6.8	23.5	1200	1100	330	87	310
D-02-05 16DCD	GW	80-07-17	--	--	--	1300	1200	360	100	330
D-02-05 17AAA	GW	80-07-21	2575	6.7	24.5	1100	940	297	77	240
D-02-05 17CAA	GW	80-07-26	4350	6.5	24.5	2200	2100	590	170	390
D-02-05 18AAA	GW	80-07-15	4520	6.7	23.5	2100	1900	600	150	420
D-02-05 19CAA	GW	80-07-28	4800	6.8	23.5	1400	1300	360	110	870
D-02-05 20ACD	GW	80-07-25	920	8.0	31.0	110	28	27	9.0	140
D-02-05 20ADD2	GW	80-07-18	3475	6.9	25.5	1100	920	290	85	390
D-02-05 20BBD	GW	80-07-26	1925	7.2	30.5	540	460	130	53	230
D-02-05 20BCC	GW	80-07-25	4950	6.8	24.5	1500	1400	413	120	680
D-02-05 20DAD	GW	80-07-18	3490	6.8	26.0	1100	1000	310	88	470
D-02-05 21ACA	GW	80-07-17	--	--	--	1300	1100	340	100	280
D-02-05 21BBD	GW	80-07-16	3100	7.0	26.5	1100	1000	290	91	230
D-02-05 28ADA2	GW	80-07-15	2250	7.3	27.0	510	450	141	38	260
D-02-05 28BDD	GW	80-07-28	1740	7.8	29.0	330	250	86	29	280
D-02-05 29AAA	GW	80-07-15	4250	6.7	25.5	1000	870	270	84	470
D-02-05 31DDD	GW	80-07-11	690	8.0	29.5	84	13	23	6.3	130
D-02-05 32AAD	GW	80-07-07	3000	6.8	25.5	900	850	250	65	500
D-02-05 32DDA	GW	80-07-14	1500	7.7	29.0	300	200	80	24	200
D-02-05 33AAD2	GW	80-07-16	1950	6.9	28.0	360	240	92	32	280
D-02-05 35ADD	GW	80-08-06	--	7.3	24.0	450	230	121	35	380
D-02-06 24CAA2	GW	80-08-06	--	7.5	29.0	220	140	64	14	95
D-02-06 28AAA2	GW	80-08-06	--	7.1	26.5	930	820	275	57	260
D-02-07 01CCD	GW	80-07-30	--	7.6	29.0	240	150	72	15	52
D-02-07 03AAA	GW	80-07-30	--	6.2	32.0	130	28	38	7.7	60
D-02-07 12DDD	GW	80-07-29	--	7.1	23.0	210	94	64	13	87
D-02-07 16DDD	GW	80-08-06	--	7.3	24.0	260	140	75	17	92
D-02-08 18DAD	GW	80-07-30	--	7.5	29.0	210	120	62	14	76
D-02-08 20DAA2	GW	80-07-31	--	7.5	29.0	230	120	69	14	63
D-03-08 04AAA	GW	80-07-31	--	7.5	30.5	220	130	67	12	82
D-03-08 10DAD	GW	80-08-05	--	7.5	28.0	220	93	66	14	100
D-03-08 14AAA	GW	80-07-31	--	7.5	28.0	200	77	59	12	100
D-03-08 21BDD	GW	80-08-05	--	7.4	29.0	350	230	101	23	140
D-03-08 26AAA	GW	80-08-04	--	7.8	27.5	180	43	55	11	120
D-03-09 30AAA	GW	80-08-04	--	7.7	27.0	110	0	33	6.0	140
D-03-09 34AAA	GW	80-08-04	--	7.5	26.5	150	21	46	8.7	140
D-04-09 06AAA2	GW	80-08-04	--	7.5	26.5	370	260	110	23	140
SAN SIMON WASH										
C-15-01 15CDB1	GW	80-05-21	2150	--	--	31	0	7.0	3.2	450
C-16-01 10CCA	GW	80-04-14	1310	8.6	33.0	26	0	6.9	2.1	230
C-17-01 11CAC	GW	80-03-05	550	8.4	30.0	12	0	3.5	.9	110
D-16-01 18BBD2	GW	80-06-18	--	8.5	31.3	23	0	5.1	2.6	160
	GW	80-06-18	--	8.4	31.3	23	0	5.4	2.2	110
D-19-01 07ABD	GW	80-02-04	690	--	38.0	18	0	5.0	1.4	110
D-19-01 18ADA	GW	80-07-22	490	7.9	27.0	15	0	4.4	1.0	120
ST. JOHNS										
A-12-28 19BAD	GW	80-09-23	3100	6.4	18.5	610	280	220	64	380
A-13-27 13A SPRGS E OF R	SP	80-04-30	1710	8.4	18.5	180	0	44	18	350
	SP	80-09-24	1800	8.2	23.0	180	0	41	20	380
A-14-27 35BDC	GW	80-04-30	2090	6.8	16.0	460	86	130	32	310

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
SALT RIVER VALLEY--CONTINUED										
D-02-04 11CAB	80-08-01	6.0	13	--	--	640	2000	.4	34	4150
D-02-04 11DDA	80-07-31	3.5	12	--	--	580	1900	.3	28	3830
D-02-04 12ACB	80-08-01	4.2	6.7	--	--	130	570	.6	26	1180
D-02-04 12DBB	80-08-01	3.4	8.7	--	--	390	1200	.5	33	2570
D-02-04 13ADA	80-08-04	6.0	12	--	--	600	1700	.2	28	3720
D-02-04 13ADD	80-08-04	5.0	4.7	--	--	760	2100	.1	37	4500
D-02-04 14AAD	80-07-31	5.2	14	--	--	630	2800	.2	45	5620
D-02-04 14ABC	80-07-31	4.9	12	--	--	620	1600	.3	39	3490
	80-08-03	--	--	--	--	--	--	--	--	--
D-02-04 24DAA	80-07-14	12	16	--	--	780	1700	.8	30	4010
D-02-04 25ACB	80-07-31	6.1	7.2	--	--	210	520	.7	25	1250
D-02-04 25DDD	80-07-14	6.5	10	--	--	610	1100	.7	27	2820
D-02-05 04BBC	80-07-18	5.6	8.4	--	--	300	790	.3	43	1930
D-02-05 04CAD	80-07-21	3.1	7.2	--	--	270	790	.3	53	1920
D-02-05 04CBC2	80-07-18	3.6	5.9	--	--	280	720	.3	34	1820
D-02-05 04DDA	80-08-05	4.6	6.6	--	--	250	750	.2	12	1770
D-02-05 09BAA	80-08-05	4.0	6.5	--	--	460	1200	.3	6.0	2720
D-02-05 09BBB3	80-07-21	3.6	5.9	--	--	330	880	.2	51	2100
D-02-05 09BBC2	80-07-26	3.9	5.3	--	--	330	930	.1	60	2170
D-02-05 16DCD	80-07-17	4.2	5.1	--	--	400	910	.5	64	2280
D-02-05 17AAA	80-07-21	3.4	10	--	--	290	850	.2	48	1920
D-02-05 17CAA	80-07-26	3.6	8.9	--	--	540	1700	.2	4.7	3520
D-02-05 18AAA	80-07-15	4.0	10	--	--	640	1500	.2	54	3580
D-02-05 19CAA	80-07-28	10	11	--	--	660	1700	.7	50	3880
D-02-05 20ACD	80-07-25	6.4	3.6	--	--	69	190	.8	21	511
D-02-05 20ADD2	80-07-18	5.2	8.4	--	--	330	1000	.3	34	2270
D-02-05 20BBD	80-07-26	4.3	7.3	--	--	210	520	.6	25	1240
D-02-05 20BCC	80-07-25	8.1	12	--	--	650	1700	.4	49	3810
D-02-05 20DAD	80-07-18	6.1	11	--	--	450	1100	.4	41	2560
D-02-05 21ACA	80-07-17	3.4	6.6	--	--	320	1000	.4	59	2240
D-02-05 21BBD	80-07-16	3.0	10	--	--	250	870	.3	40	1890
D-02-05 28ADA2	80-07-15	5.4	8.4	--	--	210	570	.4	34	1320
D-02-05 28BDD	80-07-28	6.7	5.7	--	--	240	460	.9	33	1200
D-02-05 29AAA	80-07-15	6.4	10	--	--	470	1000	.5	33	2490
D-02-05 31DDD	80-07-11	6.6	3.7	--	--	67	160	1.0	24	461
D-02-05 32AAD	80-07-07	7.8	10	--	--	510	960	.7	38	2400
D-02-05 32DDA	80-07-14	5.4	6.6	--	--	160	370	.8	28	937
D-02-05 33AAD2	80-07-16	6.4	7.4	--	--	200	440	1.1	33	1180
D-02-05 35ADD	80-08-06	8.4	6.7	--	--	200	630	1.7	47	1610
D-02-06 24CAA2	80-08-06	3.0	5.7	--	--	59	200	.2	31	540
D-02-06 28AAA2	80-08-06	3.9	8.8	--	--	170	850	.3	29	1760
D-02-07 01CCD	80-07-30	1.5	5.5	--	--	55	150	.3	32	458
D-02-07 03AAA	80-07-30	2.4	3.2	--	--	53	65	.7	46	334
D-02-07 12DDD	80-07-29	2.7	4.0	--	--	55	120	.4	31	527
D-02-07 16DDD	80-08-06	2.6	4.9	--	--	58	180	.4	29	583
D-02-08 16DAD	80-07-30	2.4	6.2	--	--	52	150	.5	35	461
D-02-08 20DAA2	80-07-31	1.9	6.2	--	--	54	150	.7	34	465
D-03-08 04AAA	80-07-31	2.5	6.1	--	--	57	180	.3	34	505
D-03-08 10DAD	80-08-05	3.1	5.6	--	--	61	180	.6	29	550
D-03-08 14AAA	80-07-31	3.3	5.7	--	--	57	170	.5	32	516
D-03-08 21BDD	80-08-05	3.5	6.0	--	--	75	290	.5	31	806
D-03-08 26AAA	80-08-04	4.1	5.0	--	--	54	170	.7	29	530
D-03-09 30AAA	80-08-04	6.2	4.3	--	--	64	170	.5	28	517
D-03-09 34AAA	80-08-04	5.0	4.2	--	--	62	180	.8	33	584
D-04-09 06AAA2	80-08-04	3.3	6.2	--	--	150	290	.7	30	924
SAN SIMON WASH										
C-15-01 15CDB1	80-05-21	39	2.4	--	--	130	450	1.3	4.3	1250
C-16-01 10CCA	80-04-14	21	2.0	--	--	170	170	2.3	16	684
C-17-01 11CAC	80-03-05	14	1.6	219	--	26	26	2.9	27	313
D-16-01 18BBD2	80-06-18	14	2.2	--	--	94	64	2.8	24	452
	80-06-18	11	2.1	--	--	39	33	5.5	25	338
D-19-01 07ABD	80-02-04	11	2.9	--	--	23	28	8.0	31	329
D-19-01 18ADA	80-07-22	14	1.9	--	--	28	21	8.0	43	350
ST. JOHNS										
A-12-28 19BAD	80-09-23	5.8	30	--	--	440	440	2.3	9.6	1920
A-13-27 13A SPRGS E OF B	80-04-30	11	6.3	--	--	380	100	2.5	13	1170
	80-09-24	12	8.8	--	--	330	120	2.5	13	1200
A-14-27 35BDC	80-04-30	6.3	15	--	--	410	220	1.9	6.6	1350

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	SAMPLE NUMBER
SALT RIVER VALLEY--CONTINUED										
D-02-04 11CAB	80-08-01	5.64	7.4	--	5	--	940	36	<1	1460
D-02-04 11DDA	80-07-31	5.21	9.3	--	--	--	470	190	20	1460
D-02-04 12ACB	80-08-01	1.60	2.4	--	--	--	180	50	10	1460
D-02-04 12DBB	80-08-01	3.50	5.8	--	6	--	350	11	<1	1460
D-02-04 13ADA	80-08-04	5.06	13	--	3	--	560	57	2	1460
D-02-04 13ADD	80-08-04	6.12	18	--	--	--	900	80	20	1460
D-02-04 14AAD	80-07-31	7.64	20	--	--	--	910	350	30	1460
D-02-04 14ABC	80-07-31	4.75	11	--	3	--	820	<10	<1	1460
	80-08-03	--	--	--	--	--	--	--	--	1460
D-02-04 24DAA	80-07-14	5.45	16	--	2	--	1700	30	10	1460
D-02-04 25ACB	80-07-31	1.70	3.5	--	4	--	380	<10	<1	1460
D-02-04 25DDD	80-07-14	3.84	10	--	2	--	1000	30	10	1460
D-02-05 04BBC	80-07-18	2.62	14	--	2	--	680	<10	<1	1460
D-02-05 04CAD	80-07-21	2.61	15	--	--	--	640	100	20	1460
D-02-05 04CBC2	80-07-18	2.48	16	--	--	--	550	50	10	1460
D-02-05 04DDA	80-06-05	2.41	13	--	3	--	460	40	<1	1460
D-02-05 09BAA	80-08-05	3.70	5.5	--	--	--	130	70	10	1460
D-02-05 09BBB3	80-07-21	2.86	16	--	1	--	720	<10	<1	1460
D-02-05 09BCC2	80-07-26	2.95	17	--	--	--	820	110	20	1460
D-02-05 16DCD	80-07-17	3.10	15	--	2	--	560	<50	6	1460
D-02-05 17AAA	80-07-21	2.61	11	--	1	--	640	<10	<1	1460
D-02-05 17CAA	80-07-26	4.79	17	--	--	--	970	70	10	1460
D-02-05 18AAA	80-07-15	4.87	20	--	1	--	600	80	20	1460
D-02-05 19CAA	80-07-28	5.28	17	--	--	--	1400	140	10	1460
D-02-05 20ACD	80-07-25	.70	.88	--	4	--	30	<10	<1	1460
D-02-05 20ADD2	80-07-18	3.09	10	--	--	--	640	50	10	1460
D-02-05 20BBD	80-07-26	1.69	4.4	--	--	--	160	<10	<1	1460
D-02-05 20BCC	80-07-25	5.18	18	--	2	--	1400	<10	<1	1460
D-02-05 20DAD	80-07-18	3.48	5.4	--	--	--	600	60	10	1460
D-02-05 21ACA	80-07-17	3.05	13	--	--	--	440	60	10	1460
D-02-05 21BBD	80-07-16	2.57	10	--	--	--	240	40	10	1460
D-02-05 28ADA2	80-07-15	1.80	3.9	--	2	--	460	19	1	1460
D-02-05 28BDD	80-07-28	1.63	3.5	--	--	--	100	30	10	1460
D-02-05 29AAA	80-07-15	3.39	14	--	1	--	1100	60	10	1460
D-02-05 31DDD	80-07-11	.63	.63	--	11	--	70	<10	1	1460
D-02-05 32AAD	80-07-07	3.26	7.5	--	2	--	940	<10	<1	1460
D-02-05 32DDA	80-07-14	1.27	1.8	--	5	--	160	<10	<1	1460
D-02-05 33AAD2	80-07-16	1.60	4.0	--	--	--	490	50	1	1460
D-02-05 35ADD	80-08-06	2.19	11	--	6	--	860	25	<1	1460
D-02-06 24CAA2	80-08-06	.58	4.7	--	3	--	70	<10	1	1460
D-02-06 28AAA2	80-08-06	2.39	7.9	--	2	--	390	45	4	1460
D-02-07 01CCD	80-07-30	.62	4.5	--	3	--	150	<10	<1	1460
D-02-07 03AAA	80-07-30	.45	.01	--	10	--	110	<10	<1	1460
D-02-07 12DDD	80-07-29	.72	18	--	2	--	130	15	<1	1460
D-02-07 16DDD	80-08-06	.79	19	--	3	--	100	<10	1	1460
D-02-08 18DAD	80-07-30	.63	2.2	--	3	--	100	<10	<1	1460
D-02-08 20DAA2	80-07-31	.65	1.6	--	3	--	100	<10	<1	1460
D-03-08 04AAA	80-07-31	.69	2.4	--	2	--	70	<10	<1	1460
D-03-08 10DAD	80-08-05	.75	3.4	--	3	--	110	<10	<1	1460
D-03-08 14AAA	80-07-31	.70	1.6	--	3	--	110	<10	<1	1460
D-03-08 21BDD	80-08-05	1.10	15	--	4	--	130	<10	1	1460
D-03-08 26AAA	80-08-04	.72	.01	--	4	--	110	<10	<1	1460
D-03-09 30AAA	80-08-04	.70	1.0	--	14	--	130	<10	<1	1460
D-03-09 34AAA	80-08-04	.79	1.4	--	2	--	130	<10	2	1460
D-04-09 06AAA2	80-08-04	1.26	24	--	3	--	120	<10	<1	1460
SAN SIMON WASH										
C-15-01 15CDB1	80-05-21	1.70	24	--	6	--	1200	<10	5	1510
C-16-01 10CCA	80-04-14	.93	4.9	--	83	--	2400	230	12	1510
C-17-01 11CAC	80-05-05	.43	1.4	62	50	--	370	130	3	1510
D-16-01 18BBD2	80-06-18	.61	.00	--	94	--	470	30	7	1510
	80-06-18	.46	2.9	--	100	--	430	14	3	1510
D-19-01 07ABD	80-02-04	.45	2.6	7	20	--	300	380	4	1510
D-19-01 18ADA	80-07-22	.48	1.8	--	36	--	270	11	2	1510
ST. JOHNS										
A-12-28 19BAD	80-09-23	2.61	.00	--	--	--	750	19000	230	1540
A-13-27 13A SPRGS E OF B	80-04-30	1.59	.15	--	--	--	1000	30	60	1540
	80-09-24	1.63	.02	--	--	--	1300	<10	5	1540
A-14-27 35BDC	80-04-30	1.84	1.3	--	--	--	330	490	10	1540

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	SITE	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
TONTO BASIN										
A-09-12 25DBB	GW	79-10-03	375	--	22.0	--	--	--	--	--
A-09-13 15CDD	GW	79-10-04	375	--	--	--	--	--	--	--
A-09-13 21BAB	GW	79-10-04	459	--	17.0	--	--	--	--	--
A-09-13 21BCB	GW	79-10-03	395	--	22.0	--	--	--	--	--
A-10-10 28BCA1	GW	79-10-25	1050	--	22.0	--	--	--	--	--
A-10-10 28BCA2	GW	79-10-25	1240	--	22.0	--	--	--	--	--
A-10-10 28BCD	GW	79-10-25	859	--	18.0	--	--	--	--	--
A-11-13 30AAB	GW	79-10-11	485	--	--	--	--	--	--	--
UPPER SAN PEDRO BASIN										
D-21-20 28CDA	GW	80-07-02	--	7.6	25.0	120	0	36	6.4	20
D-22-19 14CBA1	SP	80-07-02	--	7.1	19.8	250	9	78	13	5.0
WATERMAN WASH										
C-02-01 19AAD	GW	80-07-01	--	8.2	34.5	240	220	90	2.6	590
C-02-01 28DAD	GW	80-07-02	--	8.0	38.0	--	--	--	--	--
C-02-02 11CCD	GW	80-07-02	--	7.3	29.5	630	540	230	11	690
C-02-02 13DAA	GW	80-07-02	--	8.2	32.0	150	110	57	.9	440
C-02-02 26CCC	GW	80-07-01	--	8.3	35.0	68	0	23	2.4	280
C-02-02 36DCC	GW	80-07-01	--	8.4	32.0	24	0	8.2	.9	230

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
TONTO BASIN										
A-09-12 23DBB	79-10-03	--	--	--	--	--	--	.3	--	--
A-09-13 15CDD	79-10-04	--	--	--	--	--	--	.4	--	--
A-09-13 21BAB	79-10-04	--	--	--	--	--	--	.4	--	--
A-09-13 21BCB	79-10-03	--	--	--	--	--	--	.4	--	--
A-10-10 28BCA1	79-10-25	--	--	--	--	--	--	.5	--	--
A-10-10 28BCA2	79-10-25	--	--	--	--	--	--	1.0	--	--
A-10-10 28BCD	79-10-25	--	--	--	--	--	--	.3	--	--
A-11-13 30AAB	79-10-11	--	--	--	--	--	--	.2	--	--
UPPER SAN PEDRO BASIN										
D-21-20 28CDA	80-07-02	.8	1.0	--	--	4.3	5.9	.4	29	192
D-22-19 14CBA1	80-07-02	.1	1.0	--	--	18	4.6	.3	12	278
WATERMAN WASH										
C-02-01 19AAD	80-07-01	17	9.8	--	--	170	930	8.0	20	1850
C-02-01 28DAD	80-07-02	--	--	--	--	--	--	--	--	--
C-02-02 11CCD	80-07-02	12	11	--	--	400	1200	4.1	23	2700
C-02-02 13DAA	80-07-02	16	7.3	--	--	200	620	5.3	22	3040
C-02-02 26CCC	80-07-01	15	5.7	--	--	140	310	4.8	19	879
C-02-02 36DCC	80-07-01	21	4.5	--	--	94	210	3.9	17	684

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980--Continued

LOCAL IDENTIFIER	DATE OF SAMPLE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL (UG/L AS BA)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	SAMPLE NUMBER
TONTO BASIN										
A-09-12 23DBB	79-10-03	--	--	--	--	--	--	--	--	1550
A-09-13 15CDD	79-10-04	--	--	--	--	--	--	--	--	1550
A-09-13 21BAB	79-10-04	--	--	--	--	--	--	--	--	1550
A-09-13 21BCB	79-10-03	--	--	--	--	--	--	--	--	1550
A-10-10 28BCA1	79-10-25	--	--	--	--	--	--	--	--	1550
A-10-10 28BCA2	79-10-25	--	--	--	--	--	--	--	--	1550
A-10-10 28BCD	79-10-25	--	--	--	--	--	--	--	--	1550
A-11-13 30AAB	79-10-11	--	--	--	--	--	--	--	--	1550
UPPER SAN PEDRO BASIN										
D-21-20 28CDA	80-07-02	.26	1.1	--	1	--	10	<10	<3	1580
D-22-19 14CBA1	80-07-02	.38	.29	--	1	--	7	<10	<1	1580
WATERMAN WASH										
C-02-01 19AAD	80-07-01	2.52	2.6	--	3	--	700	<10	<1	1620
C-02-01 28DAD	80-07-02	--	--	--	--	--	--	--	--	1620
C-02-02 11CCD	80-07-02	3.67	16	--	5	--	920	<10	<1	1620
C-02-02 13DAA	80-07-02	4.13	8.5	--	8	--	750	<10	2	1620
C-02-02 26CCC	80-07-01	1.20	11	--	5	--	480	<10	2	1620
C-02-02 36DCC	80-07-01	.95	11	--	13	--	540	<10	<1	1620

	Page
Accuracy of field data and computed results	27-28
Acre-foot, definition of	6
Agua Caliente Wash tributary near Tucson	506
Agua Fria basin, ground-water levels in	518
Agua Fria River, at Avondale	395
at El Mirage	508
at Waddell Dam	388
near Mayer	382
near Rock Springs	387
Airport Wash at Tucson	275
North Fork, near Tucson	506
South Fork, near Tucson	505
Alamo Dam, Bill Williams River below	147
Alamo Lake, contents of	147
Alamo Wash at Tucson	507
Albert Canal, diversion by	222
Algae, definition of	6
All-American Canal, below Pilot Knob wasteway, CA	462
near Imperial Dam, AZ-CA	457
Alma, NM, San Francisco River near	225
Alpine, Beaver Creek near	291
Heifer Branch near	292
East Fork Black River near	288
West Fork Black River near	290
Altar Valley, ground-water levels in	518
Altar Wash near Three Points	507
Analyses, water-quality miscellaneous sites	510-515
water quality of ground water	524-562
Anderson drain near Palo Verde, CA	186
Andrade, CA, Colorado River near	427-449
Anklam Wash at Tucson	506
Apache Lake, capacity of	321
Aquifer, definition of	6
Aravaipa Creek near Mammoth	254
Aravaipa Valley, ground-water levels in	518
Arcadia Wash at Tucson	281
Arizona Canal, diversions from, at Phoenix	377
Arlington, Centennial Wash at Southern Pacific Railroad bridge near	400
Hassayampa River near	399
Ash mass, definition of	8
Ashurst-Hayden Dam, Gila River at, near Florence	268-269
Atterbury Wash tributary at Tucson	280
Avondale, Agua Fria River at	395
Avra Valley, ground-water levels in	518
Bacteria, definition of	6
fecal coliform, definition of	8
fecal streptococcal, definition of	8
total coliform, definition of	8
Bagdad, Santa Maria River near	146
Bartlett Dam, Verde River below	365-371
Bartlett Reservoir, capacity of	364
Beaver Creek near Alpine	291
Bed material, definition of	8
Big Bonito Creek near Fort Apache	296
Big Chino Valley, ground-water levels in	518
Big Sandy River near Wikieup	143
Big Sandy Valley, ground-water levels in	518
Big Wash (tributary to Canada del Oro) near Catalina	507
Big Wash (tributary to Santa Cruz River) at Tucson	506
Bill Williams, ground-water levels in	518
Bill Williams River, below Alamo Dam	147
below Mineral Wash near Planet	148-156
Bill Williams River basin, surface-water and water-quality records in	143-156
Biomass, definition of	8
Black Creek near Lupton	67
Black-McCleskey Canal, diversion by	222
Black Mesa, ground-water levels in	518
Black River, below pumping plant, near Point of Pines	295
East Fork near Alpine	288
near Fort Apache	297
near Maverick	293
West Fork near Alpine	290
Willow Creek diversion from, near Morenci	229
Black Rock Reservoir, Zuni River above	62
Blue-green algae, definition of	13
Blue Ridge Reservoir near Pine	70
Blue River near Clifton	227
Blythe, CA, Colorado River near	182-183
Olive Lake drain near	180-181
Palo Verde Canal near	171-173
Bottom material, definition of	9
Boulder City, NV, Las Vegas Wash near	108-116
Bow and Arrow Wash at Flagstaff	505
Brawley Wash near Three Points	507
Bruce Church drain, return surface flows by	464,467
water-quality records of	475
Bruce Church wasteway, return surface flows by	464,467
Buckeye, Gila River near	396-397
Burro Mountain weir near Greer	289
Burton, T. D., Canal, diversion by	234
Butler Valley, ground-water levels in	518
Calva, Gila River at	236-242
Cameron, Little Colorado River at	74-79
Little Colorado River near	84
Camp Verde, Fossil Creek diversions near	355
Verde River near	350-354
West Clear Creek near	349
Canada del Oro near Tucson	507
Canyon Creek near Globe	306
Canyon Diablo, ground-water levels in	518
Canyon Lake, capacity of	321
Carrizo Creek near Show Low	303
Cave Creek, at Phoenix	381
Cells/volume, definition of	9
Cemetery Wash at Tucson	506
Centennial Wash at Southern Pacific Railroad bridge near Arlington	400
Cfs-day, definition of	9
Chambers, Puerco River near	68
Charleston, San Pedro River at	251
Chemical oxygen demand, definition of	9
Cherry Creek, near Globe	307
Chevelon, ground-water levels in	518
Childs, East Verde River near	357
Wet Bottom Creek near	358-362
Chinle Creek near Mexican Water	35
Chlorophyll, definition of	9
Chrysotile, Cibecue Creek near	305
Salt River near	304
Cibecue Creek near Chrysotile	305
Cibola Lake Inlet near Cibola	187
Cibola Lake Outlet near Cibola	187
Cibola Valley, Colorado River below	189-191
Cienega Creek near Pantano	507
Clarkdale, Verde River near	334-335
Clear Creek, below Willow Creek, near Winslow	71-72
near Winslow	73
Cleator, Turkey Creek near	383-386
Clifton, Blue River near	227
Gila River near	223
San Francisco River at	228
Coal Mine Wash tributary No. 1 near Kayenta	80
Colmenero Canal, diversion by	222
Colorado River, above Imperial Dam, AZ-CA	193-213
at Compact point, near Lees Ferry	48
at Lees Ferry	37-46
at Needles, CA	137
at northerly international boundary above Morelos Dam, near Andrade, CA	427-449
at Palo Verde Dam, AZ-CA	174
at southerly international boundary, near San Luis	450
at Taylor Ferry, near Blythe, CA	182-183
below Cibola Valley	189-191
below Davis Dam, AZ-NV	135-136
below Hoover Dam, AZ-NV	126-133
below Imperial Dam, AZ-CA	214
below Laguna Dam, AZ-CA	215-218
below Parker Dam, AZ-CA	159-164
below Yuma Main Canal wasteway, at Yuma	425
diversions to Mittry Lake	193
Colorado River, near Grand Canyon	85-88
near Topock	139-141
Colorado River aqueduct near Parker Dam, AZ-CA	142
Colorado River Indian Reservation, Lower Main drain near Parker	178-179
Main Canal near Parker	165-167
Poston wasteway near Poston	168-169
Colvin-Jones Canal, diversion by	234
Concho, ground-water levels in	519
Consolidated Brown Canal, diversion by	234
Contents, definition of	9
Continental, Santa Cruz River at	274

	Page
Control, definition of	9
Coolidge Dam, Gila River below	245
San Carlos Reservoir at	244
Cooper wasteway, return surface flows by	466,468
Cooperation	2
Cornville, Oak Creek near	343
Cortaro, Santa Cruz River at	282
Crest-stage partial-record stations	505-508
Cubic feet per second per square mile, definition of	9
Cubic foot per second, definition of	9
Curtis Canal, diversion by	234
Darby Arroyo near Ajo	508
Data, ground-water level records, collection and publication of	31
stage and water-discharge records, accuracy of field data and computed results	27-28
collection and computation of	22-24
other data available	28
publication of	24-27
records of discharge collected by agencies other than the Geological Survey	28
water-quality records, collection and examination of data	28-29
sediment	30-31
water analysis	29
water temperature	30
Davidson Canyon Wash near Vail	507
Davis Dam, AZ-NV, Colorado River below	135-136
diversions and return flows between, and Parker Dam	138,514
Lake Mohave at	134
Definition of terms	6,8-18
Diagram, schematic, showing gaging stations and water-quality stations between Imperial Dam and international boundary	426
well-numbering system	20-21
Diatoms, definition of	13
Discharge, definition of	10
instantaneous, definition of	10
mean, definition of	10
Dissolved, definition of	10
Diversity index, definition of	10
Dodge-Nevada Canal, diversion by	234
Dome, Gila River near	414
Douglas, Whitewater Draw near	501-503
Douglas basin, ground-water levels in	519
Downstream order and station numbers	18
Drain 8-B, return surface flows by	465,468
water-quality records of	493
Drainage area, definition of	10
Dry Beaver Creek near Rimrock	347-348
Dry mass, definition of	8
Duncan basin, ground-water levels in	519
Duncan Canal, diversion by	222
Duncan Valley, NM-AZ, diversions from Gila River in	222
Eagle Creek, above pumping plant, near Morenci	230
pumpage from	230
East Main Canal wasteway, return surface flows by	466-468
East Verde River, diversion from East Clear Creek, near Pine	356
near Childs	357
Eleven Mile wasteway, return surface flows by	466,468
Enterprise Canal, diversions to	401
Flato Wash near Sahuarita	505
Florence-Casa Grande Canal, diversions to	268-269
Florence, Gila River near	268-269
Flowing Wells Wash at Tucson	506
Forestdale Creek diversion from Show Low Creek, near Show Low	302
Fort Apache, Big Bonito Creek near	296
Black River near	297
East Fork White River near	299-300
White River near	301
Fort McDowell, diversions from Salt and Verde Rivers near	374
Sycamore Creek near	373
Ft. Thomas Canal, diversion by	234
Fortuna wasteway, return surface flows by	463,467
Fossil Creek diversions to Childs powerplant, near Camp Verde	355
Fourness Canal, diversion by	234
Fredonia, Kanab Creek near	91
Gage height, definition of	10
Gaging station, definition of	10
map showing location of stations	33
Geronimo Wash near Tucson	507
Gibson Arroyo at Ajo	508
Gila, NM, Gila River near	219
Gila Bend basin, ground-water levels in	519
Gila Bend Canal, diversions to	401
Gila Gravity Main Canal, at Imperial Dam, AZ-CA	454-456
at pumping plant, diversion by	451,453
Gila River, above diversions at Gillespie Dam	401-410
at Ashurst-Hayden Dam near Florence	268-269
at Calva	236-242
at head of Safford Valley near Solomon	231-233
at Kelvin	261-267
at U.S. Highway 80 near Buckeye	396-397
at Winkelman	246-249
below Blue Creek, near Virden, NM	221
below Coolidge Dam	245
below Gillespie Dam	411
below Painted Rock Dam	412
diversions from, in Duncan Valley, NM-AZ	222
diversions from, in Safford Valley	234
near Clifton	223
near Dome	414
near Gila, NM	219
near Laveen	270
near Mohawk	413
near mouth, near Yuma	415-424
near Redrock, NM	220
Painted Rock Dam to Texas Hill, ground-water levels in	519
San Carlos Reservoir to Kelvin, ground-water levels in	519
Texas Hill to Dome, ground-water levels in	519
Gila River basin, analyses at miscellaneous sites in	512-513
crest-stage partial-record stations in	505-508
discharge measurements at miscellaneous sites in	509
surface-water and water-quality records in	219-424
Gillespie Dam, Gila River above diversions, at	401-410
Gila River below	411
Gisela, Rye Creek near	319
Glen Canyon Dam, Lake Powell at	36
Glenwood, NM, San Francisco River near	226
Globe, Canyon Creek near	306
Cherry Creek near	307
Pinal Creek at Inspiration Dam near	308-311
Graham Canal, diversion by	234
Grand Canyon, Colorado River near	85-88
Granite Reef Dam, diversions from Salt River at	376
Green algae, definition of	13
Greer, Burro Mountain weir near	289
Little Colorado River at	49
Ground water, areas, index map of	516-517
level records, explanation of	31
water levels	518-523
water quality	524-562
Hardness, definition of	11
Harenberg Wash at Flagstaff	505
Harquahala Plains, ground-water levels in	520
Hassayampa, ground-water levels in	520
Hassayampa River, at Box damsite, near Wickenburg	398
near Arlington	399
near Morristown	508
Heifer Branch near Alpine	292
Henderson, NV, Las Vegas Wash near	105-107
High School Wash at Tucson	279
Holbrook, ground-water levels in	520
Hoover Dam, AZ-NV, Colorado River below	126-133
Lake Mead at	117-125
Hopi, ground-water levels in	520
Horseshoe Dam, reservoir system on Verde River at and below	364
Verde River above	363
Horseshoe Reservoir, capacity of	364
Hot Shot Arroyo near Ajo	508
House Rock, ground-water levels in	520
Hualapai Valley, ground-water levels in	520
Hydrologic bench-mark station, definition of	19
Wet Bottom Creek near Childs	358-362
Hydrologic conditions	3-6

	Page
Hydrologic conditions, graph of	3-6
Hydrologic unit, definition of	11
Imperial Dam, AZ-CA, All-American Canal near	457
Colorado River above	193-213
Colorado River below	214
diversions and return flows at and below	451-496
diversions and return flows between, and Palo Verde Dam	176-187, 515
diversions at and below	451-453
Gila Gravity Main Canal at	454-456
return surface flows below	463-468
schematic diagram of gaging stations and water-quality stations between, and southerly international boundary	426
Indian Bend Wash at Scottsdale	378
Introduction	1
Joseph City, Little Colorado River near	69
Julian Wash at Tucson	506
Kanab, ground-water levels in	520
Kanab Creek basin, surface-water records in	89-91
Kanab Creek near Fredonia	91
near Kanab, UT	89-90
Kayenta, Coal Mine Wash tributary No. 1 near	80
Kelvin, Gila River at	261-267
Kirkland Creek near Kirkland	144-145
Kom Vo, Vamori Wash at	498-500
Laguna Canal wasteway, return surface flows by	463-467
Laguna Dam, AZ-CA, Colorado River below	215-218
Lake Havasu, diversions from	142
Lake Havasu near Parker Dam, AZ-CA	157-158
Lake Mead at Hoover Dam, AZ-NV	117-125
Lake Mohave at Davis Dam, AZ-NV	134
Lake Pleasant at Waddell Dam	389
Lake Powell at Glen Canyon Dam	36
Lakes and reservoirs:	
Alamo Lake, contents of	147
Blue Ridge Reservoir near Pine	70
Havasu, Lake, near Parker Dam, AZ-CA	157-158
Mead, Lake, at Hoover Dam, AZ-NV	117-125
Mohave, Lake, at Davis Dam, AZ-NV	134
Painted Rock Reservoir, contents of	412
Pleasant, Lake, at Waddell Dam	389
Powell, Lake, at Glen Canyon Dam	36
Reservoir system on Salt River	321
Reservoir system on Verde River	364
San Carlos Reservoir at Coolidge Dam	244
Senator Wash Reservoir, contents of	193
Show Low Lake, contents of	64
Lakeside, Show Low Creek near	63
Las Vegas Valley, surface-water and water-quality records in	105-116
Las Vegas Wash, near Boulder City, NV	108-116
near Henderson, NV	105-107
Laveen, Gila River near	270
Santa Cruz River near	284-285
Lees Ferry, Colorado River at	37-46
Colorado River at Compact point, near	48
Paria River at	47
Leroux Wash near Holbrook	505
Levee Canal wasteway, return surface flows by	463,467
Little Brawley Wash near Three Points	508
Little Chino Valley, ground-water levels in	520
Little Colorado River, above Lyman Lake, near St. Johns	52-57
above Zion Reservoir near St. Johns	60-61
at Cameron	74-79
at Greer	49
at Woodruff	66
below Lyman Lake, near St. Johns	59
near Cameron	84
near Joseph City	69
Little Colorado River basin, analyses at miscellaneous sites in	510-511
crest-stage partial-record stations in	505
discharge measurements at miscellaneous sites in	509
surface-water and water-quality records in	49-84
Littlefield, Virgin River at	92-97
Lochiel, Santa Cruz River near	271
Lockett-Fanning diversion at Flagstaff	505
Lower Hassayampa, ground-water levels in	520
Lower San Pedro basin, ground-water levels in	520
Lower Santa Cruz basin, ground-water levels in	520-521
Lupton, Black Creek near	67
Lyman Canal below Lyman Lake, near St. Johns	58
McMullen Valley, ground-water levels in	521
McNary, North Fork White River near	298
Main Drain, return surface flows by	466,468
water-quality records of	494-496
Main Outlet Drain Extension above Morelos Dam, return surface flows by	465,468
below Morelos Dam, return surface flows by	466,468
Mammoth, Aravaipa Creek near	254
San Pedro River near	255
Maverick, Black River near	293
Pacheta Creek at	294
Mayer, Agua Fria River near	382
Mescal Arroyo near Pantano	507
Mexican Water, Chinle Creek near	35
Micrograms per gram, definition of	11
Micrograms per liter, definition of	11
Milligrams per liter, definition of	11
Miscellaneous sites, analyses of samples at	510-515
definition of	11
discharge measurements at	509
numbering system for wells and	19,20
Mittry Lake, diversions to	193
Mittry Lake Outlet Channel, return surface flows by	463,467
water-quality records of	469
Moenkopi Wash at Moenkopi	81-83
Mohawk, Gila River near	413
Montezuma Canal, diversion by	234
Montezuma Well Outlet near Rimrock	345
Morenci, Eagle Creek near	230
Willow Creek diversion from Black River near	229
National Geodetic Vertical Datum of 1929, definition of	11
National stream-quality accounting network, definition of	20
Needles, CA, Colorado River at	137
Topock Marsh Inlet near	138
Networks and programs, special	19-20, 22
New Model Canal, NM, diversion by	222
New River, at Bell Road, near Peoria	392-393
at New River	391
near Rock Springs	390
Nogales, Santa Cruz River near	272-273
North Gila Drain No. 1, return surface flows by	463,467
water-quality records of	470
North Gila Drain No. 3, return surface flows by	463,467
water-quality records of	471
North Gila Main Canal, diversion by	451,453
North Gila Main Canal No. 2, diversion by	451,453
North Gila Main Canal wasteway, return surface flows by	463,467
Numbering system for wells and miscellaneous sites	19,20
Nutrioso Creek, above Nelson Reservoir, near Springerville	50
below Nelson Reservoir, near Springerville	51
Oak Creek, at Redrock crossing near Sedona	339-342
near Cornville	343
near Sedona	336-338
Olive Lake drain near Blythe, CA	180-181
Order, downstream, and station numbers	18
Organic mass, definition of	9
Organism, definition of	11
organism count/volume	11
total organism count	12
Outfall drain near Palo Verde, CA	184-185
Pacheta Creek at Maverick	294
Painted Rock Dam, Gila River below	412
Painted Rock Reservoir, contents of	412
Palo Verde, CA, Anderson drain near	186
Outfall drain near	184-185
Palo Verde Canal near Blythe, CA	171-173
Palo Verde Dam, AZ-CA, Colorado River at	174
diversions and return flows between, and Imperial Dam	176-187, 515
diversions and return flows between, and Parker Dam	165-173
Palo Verde drain near Parker	176-177
Palo Verde Irrigation District, Anderson drain near Palo Verde, CA	186
Olive Lake drain near Blythe, CA	180-181
Outfall drain near Palo Verde, CA	184-185
Palominas, San Pedro River at	250

	Page
Pantano Wash, at Tucson	507
near Vail	507
Paria River at Lees Ferry	47
Paria River basin, surface-water records in	47
Parker, Colorado River Indian Reservation, Main Canal near	165-167
Lower Main drain near	178-179
Palo Verde drain near	176-177
Parker Dam, AZ-CA, Colorado River aqueduct near	142
Colorado River below	159-164
diversions and return flows between, and Davis Dam	138,514
diversions and return flows between, and Palo Verde Dam	165-173
Lake Havasu near	157-158
Partial-record stations, crest-stage, discharge at	505-508
map showing location of	504
definition of	12
Particle size, definition of	12
Particle-size classification, definition of	12
Paulden, Verde River near	332-333
Williamson Valley Wash near	330-331
Peck Canyon tributary near Redington	505
Peoria, New River near	392-393
Percent composition, definition of	12
Peridot, San Carlos River near	243
Periphyton, definition of	12
Pesticide program, definition of	22
Pesticides, definition of	12
Phoenix, Cave Creek at	381
Diversions from Arizona Canal at	377
Salt River at Jointhead Dam at	379
Salt River tributary at	380
Skunk Creek near	394
Phytoplankton, definition of	13
Picocurie, definition of	13
Pilot Knob powerplant and wasteway near Pilot Knob, CA	461
Pilot Knob wasteway, CA, All-American Canal below	462
Pima Wash (tributary to Rillito Creek) near Tucson	507
Pinal Creek at Inspiration Dam near Globe	308-311
Pine, Blue Ridge Reservoir near	70
East Verde River diversion from East Clear Creek near	356
Pisinimo, San Simon Wash near	497
Planet, Bill Williams River near	148-156
Plankton, definition of	13
Point of Pines, Black River near	295
Polychlorinated biphenyls, definition of	13
Pontiac Canal, diversion by	452,453
Poston wasteway near Poston	168-169
Programs, special networks and	19-20, 22
Puerco River near Chambers	68
Puerco-Zuni, ground-water levels in	521
Pumping Wash near Vail	505
Quality of ground water	524-562
Radiochemical program, definition of	22
Railroad Wash at Tucson	277
Ranegras Plain, ground-water levels in	521
Rattlesnake Canyon near Rimrock	346
Records, explanation of, ground-water level	31
stage and water-discharge	22-28
water-quality	28-31
Recoverable from bottom material, definition of	14
Redington, San Pedro River near	253
Redrock, NM, Gila River near	220
Reservation Drain No. 2, return surface flows by	465,468
Reservation Drain No. 3, return surface flows by	465,468
Reservation Drain No. 7, return surface flows by	464,468
Reservation Drain No. 11, return surface flows by	465,468
Reservation Main Canal, diversion by	452,453
Reservation Main Drain No. 4, return surface flows by	465,468
water-quality records of	491
Reservation Main Drain No. 6, return surface flows by	465,468
Reserve, NM, San Francisco River near	224
Reservoirs. See Lakes and reservoirs	
Rillito Creek near Tucson	507
Rimrock, Dry Beaver Creek near	347-348
Montezuma Well Outlet near	345
Rattlesnake Canyon near	346
Wet Beaver Creek near	344
Rincon Creek near Tucson	507
Rio Cornez near Ajo	508
Rio de Flag, at Flagstaff	505
at Hidden Hollow Road, at Flagstaff	505
at Interstate 40 at Flagstaff	505
Rio Sonoyta basin, surface-water records in	497-498
water-quality records in	499-500
Riverside, NV, Virgin River above Halfway Wash near	98-104
Rob Wash at Tucson	506
Rock Springs, Agua Fria River near	387
New River near	390
Rodeo Wash at Tucson	506
Roosevelt, Salt River near	312-318
Tonto Creek near	320
Roosevelt Dam, reservoir system on Salt River at and below	321
Roosevelt Lake, capacity of	321
R. Sexton Canal, diversion by	222
Runoff in inches, definition of	14
Rye Creek near Gisela	319
Sabino Creek near Tucson	506
Sacramento Valley, ground-water levels in	521
Safford basin, ground-water levels in	521
Safford Valley, diversions from Gila River in	234
Saguaro Lake, capacity of	321
St. Johns, Little Colorado River near	52-57, 59-61
Lyman Canal near	58
St. Johns, ground-water levels in	522
Salt River basin, Upper, ground-water levels in	522
Salt River, at Jointhead Dam at Phoenix	379
below Stewart Mountain Dam	322-329
diversions for city of Phoenix from, near Fort McDowell	374
diversions from, at Granite Reef Dam	376
near Chrysotile	304
near Roosevelt	312-318
reservoir system on, at and below Roosevelt Dam	321
tributary in South Mountain Park, at Phoenix	380
Salt River Valley, ground-water levels in	521-522
San Bernardino Valley, ground-water levels in	522
San Carlos Reservoir at Coolidge Dam	244
San Carlos River near Peridot	243
San Francisco Peaks, ground-water levels in	522
San Francisco River, at Clifton	228
near Alma, NM	225
near Glenwood, NM	226
near Reserve, NM	224
pumpage from	230
San Joaquin Wash near Tucson	508
San Jose Canal, diversion by	234
San Juan River basin, surface-water records in	35
San Luis, Colorado River near	450
Main Drain at southerly international boundary, near	494-496
San Pedro basin, Lower, ground-water levels in	520
Upper, ground-water levels in	523
San Pedro River, at Charleston	251
at Palominas	250
at Winkelman	256-260
below Aravaipa Creek near Mammoth	255
near Redington	253
near Tombstone	252
San Simon basin, ground-water levels in	522
San Simon River near Solomon	235
San Simon Wash near Pisinimo	497
San Simon Wash, ground-water levels in	522
San Simon Wash basin, surface-water records in	497-498
water-quality records of	497-500
Santa Cruz basin, Lower, ground-water levels in	520-521
Upper, ground-water levels in	523
Santa Cruz River, at Continental	274
at Cortaro	282
at Tucson	276
near Laveen	284-285
near Lochiel	271
near Nogales	272-273
West Branch, at Tucson	506
Santa Maria River near Bagdad	146

	Page
Santa Rosa Wash near Vaiva Vo, near Sells	283
Schultz Canyon at Flagstaff	505
Scottsdale, Indian Bend Wash at	378
Verde River near	375
Sediment, definition of	14
explanation of	30-31
mean concentration, definition of	15
suspended, definition of	14
concentration, definition of	14
discharge, definition of	14
load, definition of	14
total discharge, definition of	14
Sedona, Oak Creek at Red Rock crossing near	339-342
Oak Creek near	336-338
Sells, Santa Rosa Wash near	283
Senator Wash Reservoir, contents of	193
Seston, definition of	15
Seven Springs Draw, East Fork, near Springerville	286
West Fork, near Springerville	287
Sexton Canal, diversion by	222
Show Low, Carrizo Creek near	303
Forestdale Creek diversion from Show Low Creek near	302
Show Low Creek, below Jaques Dam, near Show Low	64
near Lakeside	63
Show Low Lake, contents of	64
Silver Creek near Snowflake	65
Silvercroft Wash at Tucson	506
Sinclair Wash at Flagstaff	505
Skunk Creek near Phoenix	394
Smithville Canal, diversion by	234
Snowflake, Silver Creek near	65
Snowflake, ground-water levels in	522
Sodium-adsorption ratio, definition of	15
Solomon, Gila River near	231-233
San Simon River near	235
Solute, definition of	15
South Gila Drain No. 2, return surface flows by	464,467
South Gila Main Canal, diversion by	451,453
South Gila Pump Outlet Channel No. 1, return surface flows by	464,467
water-quality records of	484-486
South Gila Pump Outlet Channel No. 2, return surface flows by	464,467
water-quality records of	476-478
South Gila Pump Outlet Channel No. 3, return surface flows by	463,467
water-quality records of	472,474
South Gila Pump Outlet Channel No. 4, return surface flows by	464,467
water-quality records of	488-490
South Gila Terminal wasteway, return surface flows by	464,467
Specific conductance, definition of	15
Springerville, East Fork Seven Springs Draw near	286
Nutrioso Creek near	50,51
West Fork Seven Springs Draw near	287
Stage and water-discharge records, explanation of	22-28
Stage-discharge relation, definition of	15
Stewart Mountain Dam, Salt River below	322-329
Streamflow, definition of	15
Substrate, definition of	15
artificial, definition of	16
natural, definition of	15
Sulphur Spring Valley, surface-water records in	501
water-quality records of	502-503
Sunflower, East Fork Sycamore Creek near	372
Sunset Canal, NM, diversion by	222
Suspended, recoverable, definition of	16
Suspended, total, definition of	16
Switzer Canyon at Flagstaff	505
Switzer Canyon tributary at Flagstaff	505
Sycamore Creek, East Fork, near Sunflower	372
near Fort McDowell	373
Tanque Verde Creek, at Tucson	506
near Tucson	506
Taxonomy, definition of	16
Techniques of water-resources investigations, publications on	32
Terms, definition of	6,8-18
Thermograph, definition of	17
Titsink Canal, diversion by	452,453
Tombstone, San Pedro River near	252
Tons per acre-foot, definition of	17
Tons per day, definition of	17
Tonto Creek above Gun Creek, near Roosevelt	320
Topock, Colorado River near	139-141
Topock Marsh Inlet near Needles, CA	138
Tortilla Creek at Tortilla Flat	508
Total, definition of	17
Total in bottom material, definition of	17
Total, recoverable, definition of	18
Tritium network, definition of	22
Tucson, Airport Wash at	275
Arcadia Wash at	281
Atterbury Wash tributary at	280
High School Wash at	279
Railroad Wash at	277
Santa Cruz River at	276
Tucson Arroyo at Vine Avenue, Tucson	278
Turkey Creek near Cleator	383-386
Twenty-One Mile wasteway, return surface flows by	466,468
Union Canal, diversion by	234
Unit B Main Canal, diversion by	451,453
Upper Salt River basin, ground-water levels in	522
Upper San Pedro basin, ground-water levels in	523
Upper Santa Cruz basin, ground-water levels in	523
Upper Verde River, ground-water levels in	523
Valley Canal, NM, diversion by	222
Vamori Wash at Kom Vo	498-500
Ventana Canyon Wash near Tucson	507
Verde River, below Bartlett Dam	365,371
below Camp Verde	508
below Tangle Creek, above Horseshoe Dam	363
diversions for city of Phoenix, from, near Fort McDowell	374
near Camp Verde	350-354
near Clarkdale	334-335
near Paulden	332-333
near Scottsdale	375
reservoir system on, at and below Horseshoe Dam	364
Verde River, Upper, ground-water levels in	523
Virden, NM, Gila River near	221
Virgin River, above Halfway Wash near Riverside, NV	98-104
at Littlefield	92-97
Virgin River basin, surface-water and water-quality records in	92-104
WRD, definition of	18
WSP, definition of	18
Waddell Dam, Agua Fria River at	388
Lake Pleasant at	389
Walapai Canal, diversion by	452,453
Water analysis, explanation of	29
Water levels in selected wells	518-523
Water-quality records, explanation of	28-31
Water-quality stations, map showing location of	34
Water temperature, explanation of	30
Waterman Wash near Buckeye	508
Waterman Wash, ground-water levels in	523
Well-numbering system in Arizona	21
Wellton-Mohawk Bypass Drain at Arizona-Sonora boundary, return surface flows by	466,468
Wellton-Mohawk Canal, diversion by	451,453
Wellton-Mohawk Main Outlet Drain, return surface flows by	464,467
water-quality records of	480-482
West Clear Creek near Camp Verde	349
West Main Canal wasteway, return surface flow by	466,468
West Speedway Wash near Tucson	506
Wet Beaver Creek near Rimrock	344
Wet Bottom Creek near Childs	358-362
Wet mass, definition of	9
White Mountains, ground-water levels in	523
White River, East Fork, near Fort Apache	299-300
near Fort Apache	301
North Fork, near McNary	298
Whitewater Draw basin, surface-water records in	501
water-quality records of	502-503
Whitewater Draw near Douglas	501-503
Wickenburg, Hassayampa River near	398

	Page
Wikieup, Big Sandy River near	143
Willcox basin, ground-water levels in	523
Williamson Valley, ground-water levels in	523
Williamson Valley Wash near Paulden	330-331
Willow Creek diversion from Black River, near Morenci	229
Winkelman, Gila River at	246-249
San Pedro River at	256-260
Winslow, Clear Creek near	71-72, 73
Woodruff, Little Colorado River at	66
Yaqui Canal, diversion by	452,453
York Canal, diversion by	222
Yuma, Bruce Church drain near	475
Colorado River below Yuma Main Canal wasteway at	425
Drain 8-B near	493
Gila River near mouth, near	415-424
Mittry Lake Outlet Channel near	469
municipal supply, diversion for	452,453
North Gila Drain No. 1 near	470
North Gila Drain No. 3 near	471
Reservation Main Drain No. 4 at	491
Yuma, South Gila Pump Outlet Channel No. 1 near	484-486
South Gila Pump Outlet Channel No. 2 near	476-478
South Gila Pump Outlet Channel No. 3 near	472-474
South Gila Pump Outlet Channel No. 4 near	488-490
Wellton-Mohawk Main Outlet Drain near	480-482
Yuma area, ground-water levels in	523
Yuma Main Canal, at siphon-drop powerplant, near Yuma	458
below Colorado River siphon, at Yuma	460
diversions from, between siphon-drop powerplant and Yuma Main Canal wasteway	452,453
diversions from, for municipal supply for Yuma	452,453
Yuma Main Canal wasteway at Yuma	459
Yuma Mesa Outlet Drain, return surface flows by	465,468
water-quality records of	492
Zooplankton, definition of	13
Zuni River above Black Rock Reservoir, NM	62

GPO 587-041/37

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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